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An examination of the neurology behind
the concept of the Self with consideration
given to the effects of neurological
impairment.

Thesis submitted to the Open University for the degree
of Ph.D. the Faculty of Arts

Ian Hirst

Department of Philosophy

June, 1999

DECLARATION

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institution of learning.

EDUCATION AND EXPERIENCE

I. Hirst was born in September 1940 with cerebral palsy and after several medical examinations, all of which concluding that he was ineducable, he was allowed to attend a local school to see how he went on. Following secondary education, in which he was thought to be above average intelligence, he was employed in the accounts department of W.H. Smith & Son Ltd where a relative had been a van driver for several years. In 1966 he embarked upon a twelve month's course in evangelism at Cliff College and was later supported by its principal, the Rev. H. Belben, as a candidate for the ordained ministry and future training at a theological college. However, church authorities were of the opinion that his cerebral palsy precluded him as a candidate. Returning to office work he eventually trained as a computer programmer and, later, systems analyst. After studying with The Open University from February 1983 he graduated B.A. Honours (Open) in December 1990 and has since researched for a Ph.D degree. He has been married for twenty eight years and has three children and a stepson.

DEDICATION

I wish to dedicate my efforts to the memory of my mother, LILY DUNKERLEY HIRST, who first realised that I was intelligent and insisted upon me receiving an education in the face of professional opinion that I was ineducable. In this way, with her encouragement, I came to learn and appreciate the value of determination and persistence.

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I wish to express my appreciation to The Open University for making it possible for me to reach this level of academic attainment. Following my initial enquiries about the possibilities of my studying with the OU, I was encouraged and helped by Pat Herman, M.Sc., a senior counsellor, and by Maxwell Lee, who was the tutor of the first foundation course that I studied and remained as my tutor counsellor during those first important years for me. I am delighted to say that both these people continued to be interested in my progress. Having a physical disability from birth had always prevented me from completing a written examination within the set time limit but the OU solved this problem by providing amanuenses when required and, again, I wish to thank all these people who generously gave of their time to write at my dictation. Equally, I wish to thank the volunteers, including my wife and children, who accompanied me to numerous Summer Schools to ensure that my physical inability to carry a tray of food in the refectory, where self-service was the norm, did not result in me starving for a week. Especially do I thank my internal supervisor, Dr Rosalind Hursthouse, for her efforts on my behalf to ensure that I was provided with word processing equipment which I could manage, to get me started on my Ph.D. Also, I wish to thank Professor Stephen R.L. Clark of Liverpool University for inviting me to attend meetings of the Stapledon Society in the Philosophy Department to listen to visiting speakers. . My thanks go to the many library staff both in Oldham, where I used to live, and in Ormskirk for their kind attention and endeavours to procure the many books I've requested over the years.

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order that I might advance the research I wished to carry out on the philosophical implications of neurological impairment. Especially in this respect do I thank Professor C.D. Marsden from the University Department of Clinical Neurology at The National Hospital in London and Professor G.H. Whitehouse head of the Magnetic Resonance Research Centre at the University of Liverpool. My thanks too to the neurologist, Mr G.S. Venables, for making helpful suggestions regarding what I should read and for reading my thesis to ensure that my statements about neurology are correct. Finally, I thank my wife Christine who, realizing my disappointment and frustration at not being able to progress in my chosen field, first suggested that I study for a degree with the OU.

ABSTRACT OF THESIS

The argument that I present in this thesis is that while the idea of the Self is an illusion, a myth which our brains create, it is one that is necessary for our survival. However, by understanding its neurological origins we are able to take advantage of it without being victims of egocentricity. My first chapter, *Neurology of the Self*, lays down the neurological foundations for our concept of the Self and goes on to argue that, while biology and neurology must remain the basis of our understanding, we need to transcend our purely scientific concepts in order to integrate them with art and spirituality. Our transcendental view, I argue, seeks to establish values that make life worth living for and are essential to our survival. I consider some possible implications, both real and imagined, of neurological impairment. The second chapter, *Consciousness and the Self*, considers the neurological and chemical basis for consciousness and develops the ways in which the imagined Self can be used to create a balanced life that is not hijacked by ego. In the third chapter, *Human Nature and the Self*, I continue to argue for a liberated view of the Self bearing in mind its neurological origin which itself is the creator of our received reality. Compassion, which Schopenhauer's philosophy argued for as the basis of morality, is shown to be facilitated by the concept of a centred Self which I apply to the subject of morality in the fourth chapter, *Morality and the Self*.

With the fifth chapter, *Illusion and the Imagined Self*, I come to the very heart of the argument to which my considered research findings and previous chapters have lead, namely, that the illusion of the Self is neurologically created by our brains and that we do not have an unchanging Self which is other than the experiences and ideas from which our whole Being derives meaning. Nonetheless, this Self and other values we create are essential for our well being and should be cherished in themselves as being crucial for our healthy individual and collective survival. Furthermore, since we are now aware of the origin of our idea of the Self we can gain our freedom from a manipulating ego and become centred Selves able to creatively transcend and transform the limits of our neurologically given reality by being

actively involved in the ongoing process of change. This is the subject of my sixth chapter, *Spirituality and the Creative Self*, and is endorsed in my concluding chapter which, neglecting a view which carefully avoids accepting absolutes that just might be falsified tomorrow, argues that the best values that we create today should be used as absolutes from which to derive principles for living and continuing to live which could, at least, lessen the threat to our survival.

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General Introduction

"That which does the seeing, cannot be seen; that which does the hearing, cannot be heard; and that which does the thinking, cannot be thought."

-THE VEDAS (Vardey, 1995:XV)

I want to look at the neurology behind the personality of the Self, including instances where some impairment is present in the brain. Having cerebral palsy myself, the outward manifestations of which have often been mistaken as implying a lack of intellectual ability, I started to question what it was that the worth/value of human life turned on. Combining research in neurology with my own specific inner experience I shall pursue the study, not only from the point of view of someone looking in from the outside, but of someone *experiencing* the inside and looking out. Long before I knew anything of the writings of Descartes I was fascinated by the fact that the loss of a limb (1) did not seem to diminish a person - it did not destroy the "I". If the loss of a limb left the personality intact, then what about the central nervous system? If the brain is damaged, does this affect the mind, diminishing the "I", or is it just that it may make communication so difficult that it only appears to do so? If there is more to persons than the sum total of their parts, what is this "emergent property", what are persons? What is worth living for and how can we survive change and seeming contradictions in our value systems? Although we can no longer depend upon tradition to provide us with an absolute life's goal, or destination, I will be arguing that to jettison some of the traditional values may be to put our very survival at risk.

There are many ways that we could choose to describe the Self starting with a physical description through to a metaphysical one in which we describe both how we see ourselves and how others see us. I will refer to how we see ourselves, as our "imagined" Self and,

following MacIntyre (1985), how others see us, as our "strict" Self. Both these aspects of the Self will be investigated with a neurological bias because I wish to assess in what way neurological problems:

1. may occasion actual malperception, as in a case, for instance, where autism both limits and exaggerates some perceptions.
2. may so limit experience of life that one cannot integrate one's own individuality into the general life of society, and
3. may give rise to misconceptions on the part of others who find it difficult to decode both verbal and non-verbal communication, as when, in the former case, there is a speech impediment and, in the latter, there are irregular bodily movements or spasms.

Firstly, let me defend the assumption (above) that "we are more than the sum total of our parts". Homo sapiens is a conscious, reasoning being. He has thoughts. Some of these are practical, are acted upon and have further physical and mental consequences. Some are abstract and add directly to the inner life of the person through memory. The key question is: "What is the nature of the being that has these thoughts?" Hume (1962:300-312), was the first in Western philosophy to put forward what has come to be called "The Bundle Theory" of personal identity, which sees our separate perceptions being received by a non-personal subject of experiences, as opposed to "The Ego Theory" which links all perceptions in a chain of events that is experienced by an organising subject of experiences or person, e.g. a soul (Blakemore/Parfit, 1989:22). In religious terms, the Buddha was the

first Bundle Theorist with his teaching of “anatta” and “non-Atman” or the *No Self view*, while Christianity teaches the underlying unity of the individual.

For Hume it is memory that is the source of personal identity and the imagination that gives it unity, producing our experience of continuance through the chain of events linking one resembling image to another. By way of modern analogy, we may recall that in a film, the contiguous showing of 24 stills per second produces the movie (Pirsig, 1992,415). Just as the stills themselves are not the movie picture, so neither is the sum of our parts in themselves the whole of our personal identity, regardless of whether or not we accept The Bundle Theory or The Ego Theory. In neurological terms, our brains run the stills, that is, they receive and organize our perceptions and, in this way, they produce our notion of a Self. This idea, it could be argued, has been mishandled by the Church who seem to have overlooked the central teaching of Jesus Christ that his would-be followers should “deny themselves” which is very much in line with the teachings of other Eastern philosophies (2). The idea that the Self exists in a material way is limiting and makes no more sense than to say that either love or thoughts can be defined as something a neurosurgeon might put his hands on when operating on someone’s brain. My argument is not that because the Self does not exist as a material object it should be ignored. Quite the contrary, because it exists as a neurological and, therefore, subjective creation we can benefit from it whilst, at the same time, objectively standing outside its control. This is a way of recognising the more unpleasant aspects of our characters while determining to exercise control over them.

One of the problems which faces The Ego Theory is the effect of change over time; the fact that, as Hume says (1962:307), “An infant becomes a man, and is sometimes fat, sometimes lean, without any change in his identity”. Nagel says that (Parfit,1984:468-477),

while as a reductionist he agrees with Parfit that the Self is a subject of experiences he disagrees as to what that subject is. Personal identity lies in the brain; it is whatever enables a person to identify and reidentify himself and his mental states. Nagel believes that his personal identity rests upon whatever explains the physical continuity of his mental life. If the carrier of continuity is a Cartesian Ego then that is what he really is. In contrast to the views of Parfit (Parfit, 1984:469), Nagel is reported as saying,

"If on the other hand certain states and activities of my brain underlie the mental capacity, then that brain in those states...is what I am, and my survival of the destruction of my brain is not conceivable. However, I may not know that it is not conceivable, because I may not know the condition of my identity...in trying to conceive of my survival after the destruction of my brain, I will not succeed in referring to myself in such a situation if I am in fact my brain".

Parfit's view is that what matters is not physical continuity, as in Nagel's brain, but psychological continuity and connectedness as he claims to demonstrate using The Bundle Theory. Employing Humean imagery, by way of illustration, he claims that there is no such separate entity as a nation, something other than its citizens and the land they inhabit. The make-up of any such nation may change by way of its inhabitants and its laws and constitution, although its continued existence remains in the fact of its citizens acting together in various ways on its territory. Likewise, in Hume's words, "...the same person may vary his character and disposition, as well as his impressions and ideas, without losing his identity" (Hume, 1962:311). When we stop insisting that a person must be a separately existing entity we are free from having to conclude that the Self is a brain or a whole body, in the same way that we are not necessarily going to refer to a nation as its government, its citizens, nor its territory, nor indeed as just simply all three.

Neurologically, there needs to be a marriage between Nagel's more biological approach and Parfit's psychological interpretation. After all, if it was not for the speed at which dendritic connections change within the brain we would not enjoy the range of psychological diversity that we do. Every neuron, of which there are some 100 billion in the cerebral cortex, is its own processing unit (Penrose, 1994) and must be quite capable of acting even without the benefit of a nervous system, e.g. a one-celled animal is capable of swimming toward food, retreating from danger, negotiating obstacles, and learning by experience. Such nerve cells in vertebrates receive messages from the senses via afferent nerve fibre and send messages to muscles through axons or efferent nerve fibre. Since, from the age of around 25 years, we lose thousands of nerve cells or neurons every day in the process of entropy it could be argued that we are constantly in the process of change and therefore there is no continuity to the Self. Hume considered the problems of the change brought about by ageing (as noted above) although without the benefits of a knowledge of neurology. The problem is clearly divided into two parts by Hume. There is, the possible difference between gradual change, as in growing old, and that caused by sudden destruction and replacement. The case for gradual change is made by the example of a ship which, over the years, is repaired and has various sections replaced. At no stage would we question its identity as the same ship. Again, the case for sudden change is made by imagining an old dilapidated church. An architect is asked to redesign it in a modern style and, having pulled down the original brick building which at the time is little more than a ruin, the builders rebuild it using firestone. Although neither the form nor materials are the same, and the only thing common between the two being its name and the parish inhabitants it is meant to serve, yet this is sufficient for it to be acknowledged as being the same even though, in this case, the complete destruction of the original church building had to precede its replacement.

Defending The Bundle Theory, Parfit (Blakemore/Parfit, 1984:23) uses the analogy of a club which has existed for some time, holding regular meetings. It then disbands but, years later, a number of past members get together and hold gatherings in the same way that had been done before. They form a club with the same name which has the same rules. Parfit maintains that the question as to whether or not these people revived the old club or started a new one which is exactly similar, is entirely meaningless. To those who insist that there must be an answer he states that this merely shows that they do not understand the nature of clubs and that we can know what happened without answering the question. There are, of course, other Sorites-type questions that seem to be fatuous, e.g. How many grains of sand make a pile and how many would you have to remove for it to cease to be one? In a similar way, Parfit harnesses the science fiction idea of *teletransportation* and the production of Replicas. He argues that, whilst agreeing that it is counter-intuitive, The Bundle Theory should make it unnecessary to be concerned about our destruction if we know that an identical Replica, albeit constructed from different material, with all our past memories will be created in our stead; if, for example, at the touch of a button, having taken an exact copy, a replicator both destroys you and then reproduces an exact organic Replica, say, on Mars (presuming, supposedly, that Mars has been colonized and is a desirable destination) at the speed of light.

Alternatively, whilst we have people today, some of whose internal organs originally belonged to someone else, suppose we started to replace someone's brain cells gradually over a period of some 30 years. Would there ever come a point at which they would cease to be their original self and become someone else? Would they still be the same person with only 10% of their original cells as they were when they still had 90%? Do these questions

make sense or is Parfit right to say that they are empty questions? Could Nagel agree with Parfit, identifying, as he does, the Self with the brain and its mental states? Is Parfit's psychological continuity the same as Nagel's physical continuity of the mental life? Is the energy which creates matter and, presumably, is involved with the conscious life of the Self, interested in specific matter and, if not, does it really matter whether we retain our physical bodies, let alone, our psychological continuity? If it does matter, then, to whom does it matter?

Clearly, there is no simple linguistic definition of the Self. How can it be explained as "the sum total of its parts" when those parts are continually changing? But, how could it be *more* or *less*? Since many marriages continue long after a period of seven years during which all our cells have been renewed and we are, therefore, constructed of different material, what is it that survives? Must we recognize that the Self is so animated by conscious life and changing relationships that in trying to pin it down, as if attempting to freeze it in time, we will always find it somewhere else? Is it not true that even if we were able to describe all the neurology from which consciousness and a sense of Self seem to spring we still would have understood only the conditions of the experiences rather than explained them, as is the situation in the case of the imagined scientist of the Australian philosopher, Frank Jackson, who lived in a black and white environment and yet understood everything that gave others an experience of colour which she did not have herself. (Churchland, 1986:330-333)? I will argue that the Self is a construct of the conscious brain which, in becoming too attached to things as we creatively imagine them to be at anyone time, limits Being to a *state* of possessing. Being is not pinning life down so much as being aware of the flow; rather than a *state* of being it is a *process* of *becoming* aware.

The Ego Theory is more acceptable to us because it seems to present the possibility of something permanent and enduring, something which promises security and constancy in a reality where the absence of these things is continually threatening. What we fail to realise is that the acceptance of this theory, in part, creates the very Ego whose existence it postulates and that this Ego is the very Self from whose desires, satiations, fears, boredoms and anxieties we most wish to rid ourselves. It is only in becoming able to stand detached from a notion of Conscious Self, in thralldom to the ego, that life flows in an unrestricted form of consciousness where awareness of the unconscious flows unhampered into consciousness. From this position, in giving up our imagined Self, we become aware of no-Self in which all that is lost are the chains (3). Here, the values of Self, love, integrity etc are refined and endorsed as human metaphysical values worthy of cherishing and essential for survival. These could be referred to as spiritual qualities which no longer require the myths of religion to authenticate them but, rather, as self-authenticated guides to the way we relate satisfactorily to our relative environments.

Of course we are Selves as any observer will confirm. We do not merge into each other but the Selves we are within depends on our focus of awareness. Instead of being self-centred and at the mercy of instinct we need to be self-aware and free, what I have chosen to refer to as becoming a *centred* Self.

Chapter One

Neurology and the Self

In this chapter I want to look at the material structure of the brain whose neurological functions gives us the *conscious* notion/illusion of (our)Selves as transcending those material foundations. Firstly, I shall look at the biological structure of the material brain with its association to consciousness, our concept of mind and our notion of a Self. My second concern will be the value of our transcendent concept of a Self which underpins our personality as an integrated whole.

Section One

The Material Brain

Many cognitive scientists believe that the mind is inside the brain, with content of consciousness located in the cerebral cortex. Cartesian dualism holds that the mind somehow interacts with the brain. Materialism thinks that it is nothing but an epiphenomenon or aspect of material changes going on in the brain, the result of activity taking place between some 100 billion neurons. Whilst many scientists today, like the biologist Francis Crick in his book *An Astonishing Hypothesis* (Crick 1994), believe the latter to be the most likely probability the neurophysiologist, Eccles, courageously holds fast, in the face of opposing views, to dualism or interactionism as does Popper, with whom he wrote the book *The Self and It's Brain* (Popper 1983). It was Huxley (1825-95), who in his 1874 paper "On the Hypothesis that Animals are Automata" introduced the word "epiphenomenon" to explain his theory that consciousness is like the steam-whistle on a locomotive, indicating a physical change rather than being the cause of it and having no effect on the engine but being an ancillary and powerless gadget (James 1890:131). Huxley, who following the publication of Darwin's *On the Origin of Species* in 1859 became

known as "Darwin's bulldog" because of his publishing of Darwinian views, was challenged by Lloyd Morgan to explain why, if consciousness was useless, it ever evolved. This is a question that evolutionists still have to answer (Blakemore/Weiskrantz 1987:311) since our current knowledge that the *content* of consciousness lies within the cerebral cortex, or at least the brain hemispheres, whilst consciousness itself is a mid or hind brain phenomenon, does not do so.

First we need to distinguish the *mind* from the *self*. Descartes thought that the mind was whatever it is that is the subject of consciousness. He thereby excluded those things that affect or influence one unconsciously. Is an unconscious desire to wash one's hands repeatedly (when one is perhaps conscious only of the feeling that one's hands are dirty and need washing, again) a part of the mind or not? Given the Cartesian absolute separation of mind from everything else, it is hard to see how something, which is not part of the mind, can affect something that is. However, at this stage it seems unimportant whether we accept unconscious desires as part of the mind and revise the Cartesian definition to include them, or whether we stipulate that they are not part of the mind and reject the Cartesian separation between mind and body.

What is clear in either case is that the mind is primarily the subject of consciousness. It is related to those mechanisms by which the objects of consciousness become conscious and, also, to those mechanisms which affect what things become conscious and how.

The connection with the Self lies in the identification of the subject of consciousness (the mind) with the "I", and the relationship of the "I" to the Self. (This, according to some, is one of the places where Descartes went wrong.) But this is much too easy. The "I" of consciousness is a logical - or even a grammatical - requirement of consciousness itself. If

there is to be consciousness there must, logically, be something that is conscious. As Schopenhauer pointed out, the World as Representation brings into existence both Subject and Object simultaneously. But my existence is more than a simple back projection of the world. For a start, back-projection does not require **me**, anyone would do. So *cogito* does indeed imply *sum*. But equally, *cogitas* implies *es* and *cogitat, est*. In starting with "*cogito*", Descartes builds his own existence into his premise, and "*cogito ergo sum*" becomes an assertion rather than an argument. Secondly, the existence of a Self requires more than that there be a simple subject of experience as, as it were, a screen onto which experience can be projected. For my experiences to be **my** experiences I must exist in time; I must outlast each successive experience in order to be a continuing subject of experience. Thirdly, one might say that the "I" of experience is just too **thin** to function as a Self as well. At the very least, we must allow that experience affects the experiencer, so that to see something, for example, for the second time is not to see it in the same way as it was seen at first. (The process of dehabituating is taken up in Chapter Two - *Consciousness and the Self*).

What this thesis will explore is the relationship between the "I" of experience and the "I" of the Self. And, in particular, it will look at the way in which two things condition - and perhaps explain - the transition from one to the other. These things are, firstly, the material condition of experience. By this I mean the way the neurological and physiological substrate of experience, cognition and memory affect experience. The second is the way in which our actual experience of the world feeds back into the way in which we experience it and the extent to which we have control over this process. I want to argue that these two things contribute to the creation of the Self, but that what finally determines the nature of the Self that is created is our recognition of and participation in the process.

The accretion of experiences constructs a Self for us which I have called the "imagined" or "constructed" Self. This can, if we let it, both fossilize us into being forever whatever we have become by the simple process of being around and also stand between us and the world as a barrier to genuinely new and creative experiences. By becoming aware of this process we can, if we choose to, break it up and refashion ourselves into what I have called the "centred" or "creative" Self. There are limits to the extent to which we can do this, but they are much wider and less restrictive limits than we face if we just stick with what life and our genetic history has landed us with.

In the analysis which follows, we should bear in mind Hume's warning that our reasoning is often affected by the way that we feel. For example, it is more comfortable sometimes to reject materialism out of hand because we wish to believe that there is more to human beings than simple mechanicalism. We feel that this would be dehumanising, robbing us of an inner life, will and intentionality. This is not in itself, however, a reason for rejecting this position. Unfortunately, human beings are not always the logical creatures that they like to think but rather they are irrational beings struggling to subordinate their psyches, emotions, fears and neuroses to the dictates of pure reason - a battle which at times is unequal as they strive to rise above the fears and phobias of their own neurological make-up. In the rest of this section I hope to show that materialism - at least of the straightforward kind - will not even account for the physiological functions of the brain, let alone the phenomenon of consciousness. It does seem evident that the argument for or against materialism would be advanced in one way or the other if it could be established whether consciousness has evolved purely as a result of the development of the brain or whether it is the results of some non-materialistic creation. In this respect it is possible that quantum theory will help our

further understanding (1). In his book *The Turning Point*, Fritjof Capra, the quantum physicist, (1982: 396-7), quotes from Jung's *Aion* (1951,p261) on the difference between mind and matter:

Sooner or later, nuclear physics and the psychology of the unconscious will draw closer together as both of them, independently of one another and from opposite directions, push forward into transcendental territory... Psyche cannot be totally different from matter, for how otherwise could it move matter? And matter cannot be alien to psyche, for how else could matter produce psyche? Psyche and matter exist in the same world, and each partakes of the other, otherwise any reciprocal action would be impossible. If research could only advance far enough, therefore, we should arrive at an ultimate agreement between physical and psychological concepts. Our present attempts may be bold, but I believe they are on the right lines (2).

In the science of classical physics, which is accessible to our common sense reasoning, it is easy to understand the difficulties we may sometimes have in grounding that reasoning in a foundation of objective reality, outside our subjective feelings which are liable to distort the way we see things. For example, because we cannot see them with the naked eye, most of us remain oblivious to the micro-organisms that live on our skin and, indeed, some would be disgusted at the thought, even though they provide a life-protecting service. However, when we are made aware, we have no problem about seeing that such things are natural and are as much a part of the human condition as the fact that most of us in the West live in houses, although this is a far more obvious fact. Such a psychologically rational relationship which holds here is unlikely to do so in quantum physics. Using this theory, which is likely to be counter-intuitive, it is harder to

comprehend a possibly rational relationship between the observed and the observer. Indeed, in his inaugural lecture when accepting the Lucasian Professorship in Mathematics at Cambridge in 1980, Stephen Hawking (1993) said that quantum mechanics is essentially a theory of what we do not know and cannot predict, and yet, that its discovery was undoubtedly the greatest achievement in theoretical physics in this century(3). He believes that a quantum theory of gravity is needed if we are to describe the early universe and then give some explanation for the initial conditions beyond merely appealing to the anthropic principle(4). Although classical physics and quantum physics are largely in agreement that the ultimate constituents of matter are particles; these have definite position and motion in classical physics, whereas we are faced with uncertainty when taking measurements in the micro-world of quantum physics. Indeed, the difficulty of trying to understand quantum physics in terms of common sense (classical physics) is highlighted by the thought experiment of Schrödinger regarding an imagined "quantum cat" where the common sense view of having either a dead cat or one that is alive is replaced by uncertainty until these "virtual" transitions are actually collapsed into a definite position, or "real" transition, perhaps by the influence of mind. (Refer to my Chapter Two, Consciousness and the Self for a detailed account of both Schrödinger's experiment and quantum realities). Here, I want to note the teaching of Anaxagoras (c.500-430 BC) which is interpreted by Russell (Russell, 1946) as:

Mind has power over all things that have life... Mind is the source of motion.

It is a fascinating thought that the actuating force of creation could be a conscious mind. As in many of today's eastern philosophies Anaxagoras thought that everything, however small, contains portions of all opposites, such as hot and cold, white and black. This is the principle referred to in Chinese philosophy by the terms *yin* and *yang*. Indeed,

Anaxagoras' seminal idea was that the particles from which nature is constructed can be divided into even smaller constituents the minutest of which will contain a fragment of all others things, e.g. that skin and bone must be in the milk we drink and the food we eat. This is interesting in the light of current biology since we now know that each nucleus of a human cell contains the blueprint not only for the part of the body to which it belongs but for every other part as well. Also, we notice that a fragment from a laser produced three-dimensional hologram contains the whole picture originally shown by the unfragmented hologram. For example, if a hologram containing the picture of a human body was broken into pieces and we looked at the piece that had previously shown the left leg then we would instead see the whole body. A similar thing is seen when using mathematical shapes called fractals - objects whose geometry is chaotic. Such shapes multiplied many times, using a computer, give an orderly shape - the Sierpinski gasket - made from the original shape multiplied until order is achieved "for order cannot exist without chaos, nor chaos without order" (Peat, 1996, 176). For Anaxagoras mind is uniform and is just as good in animals as in man; man's apparent superiority being due to the fact that he has hands and, therefore, all seeming differences of intelligence are really due to physical abilities. Mind, he saw as the cause of a rotation, which is gradually spreading throughout the world, and is forcing the lightest things to go to the circumference, and the heaviest to fall towards the centre.

Such an all-embracing concept where everything is interconnected so that the smallest event can have an effect on the whole system has striking similarities with the non-locality view of quantum physics and of the fact that every particle has its associated anti-particle. David Hodgson, in his book *The Mind Matters* (1991:458-461), is critical of the view that all conscious entities are matter-dependent and exist only in association with the occurrence of appropriate (quantum) physical processes. Whilst arguing that

evolution could have selected for consciousness because it was advantageous and efficacious, Hodgson states that he feels more comfortable with the idea of a rational being without a beginning than with the idea of a physical world (with or without a beginning) which at some stage is without consciousness and rationality. Such a rational being, he says, could have devised the physical laws of nature but the physical laws of nature could not have created rational beings and seem unlikely to have given rise to them by chance (5). Such a view is, however, at variance with those of biologists like Crick (referenced above), who believes that eventually we will be able to explain everything from a mechanistic point of view, and the zoologist Desmond Morris, or Richard Dawkins, the latter believing that consciousness and the type of complexity and intelligence that go along with being a creative force is the achievement of evolution over a period of hundreds of millions of years of natural selection (Dawkins, 1994). Again, this argument is countered by Ward (1996) who believes in evolution emanating from an intelligent Mind and not that it could happen by chance.

Here I refer to the biologist Michael Behe (1996: 4,24,39,101-2 & 111) who, while accepting the general principles of evolution to explain the later development of animals, believes that the electron microscope has so revolutionized our understanding of the complexity of the cell that we can no longer accept evolution as being responsible for its development. To emphasize the significance of this he instances Ernst Haeckel (1834-1919) who was another popularizer of Darwin's theory. Haeckel had believed the cell to be simply a "homogeneous globule of protoplasm" instead of being the very complex structures it is. The individual constituents of the cell are molecular constructions, they are molecular *machines* which haul cargo from one place in the cell to another along "highways" made of other molecules, while others act as cables, ropes and pulleys to hold the cell in shapes. At this biochemical level there is no Darwinian *gradual* mutation

causing change to the cellular system. Each molecular *machine* within the cell is its own system but all of them need to be in place before the cell can function as a complete entity just as the separate parts of a mousetrap need to be assembled before it can be used to catch mice. Just as you cannot simply start with the base of a mousetrap, then catch a few mice, add a spring and then catch a few more mice, add a hammer and then catch a few more mice, and so on, so you cannot construct a functional cell by gradual evolution. In this way, he believes, that Darwin's own criteria for invalidation has been met since Darwin wrote in his *Origin of Species*:

If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down.

Since we are unable to establish whether consciousness has evolved purely as a result of the development of the brain or whether it is the result of some non-materialistic creation I want, at this stage, to look at how consciousness may be instantiated. Notwithstanding Hume's comment that the Self is a mere "bundle... of different perceptions...The mind" being "a kind of theatre, where several perceptions successively make their appearance" (Hume, 1962: 302) we normally think of consciousness as being unified. Indeed, it is hard to imagine it otherwise. However, both in cases of split personalities (not to be confused with schizophrenia) and split-brains - where the *corpus callosum* has been divided in an effort to combat epilepsy - it has been found that separate responses have been received from the same physical person yet apparently from two different consciousnesses. Around 1960, a Los Angeles neurosurgeon, Joseph Bogen, observed with Roger Sperry, a psychobiologist, that the behaviour of split-brain monkeys outside test situations indicated that division of the commissures left motivation,

consciousness and voluntary action virtually unimpaired (Gregory, 1987:114-7). Bogen pointed out that the operation offered promise of relief from debilitating epileptic fits which involved reverberation of discharges across *the corpus callosum*. Following 1962, when Bogen and Philip Vogel performed a total neocortical commissurotomy on a man who suffered frequent epileptic attacks, and particularly after 1965, when a growing team of researchers working under Sperry's close direction in the laboratory at the California Institute of Technology explored the state of divided and asymmetric mental activity in a small population of commissurotomy patients, systematic psychological tests were able to be applied.

It is believed that the left hemisphere of the brain, which controls the right side of the body, is generally the dominant one, and is the centre of logic, verbal abilities and the data processing of thousands of bits of information pouring into the brain every second. The right hemisphere controls the left side of the body, and it is devoted to the creative and intuitive activities of the mind. But if one hemisphere is damaged at a young age then the other side takes over most of its functions. Generally, it has been suggested that geometrical thinking (particularly in three dimensions), and also music, may normally be carried out by the right hemisphere, to give balance to the verbal and analytical abilities of the left. In a case where damage has occurred to the left hemisphere it is possible that the abilities of the right hemisphere to perform elementary arithmetic and understand simple sentences are enhanced. In Sperry's psychological tests two separate stimuli were kept apart so that information supplied to the left visual field would be received by the right brain hemisphere only and, similarly, what was given to the right visual field would be picked up by the left hemisphere alone. When a picture of a cup was flashed to the left visual field while a pencil was flashed to the right, the subject would say, "That's a pencil" while, at the same time moving to take a saucer rather than a piece of paper as

the appropriate item to match with a cup. The reason for this is thought to be that the left hemisphere processing the image of the pencil from the right visual field is able to vocalize whilst the right hemisphere processing the image of the cup from the left visual field would perform the actions associated with geometric thinking. Roger Penrose (Penrose 1991:496-7), citing this case by way of illustration, writes:

What is most striking about these split-brain subjects is that the two sides seem to behave as virtually independent individuals, each of which may be communicated with separately by the experimenter - although the communication is more difficult, and on the more primitive level, with the right hemisphere rather than the left, owing to the right's lack of verbal ability. One half of the subject's cerebrum may communicate with the other in simple ways, i.e. by watching the motion of the arm controlled by the other side, or perhaps by hearing tell-tale sounds (like the rattling of a saucer). But even this primitive communication between the two sides can be removed by carefully controlled laboratory conditions. Vague emotional feelings can still be passed from one side to the other, however, presumably because structures which are not split, such as the hypothalamus, are still in communication with both sides(6).

Penrose's mention of some "vague emotional feelings" being passed between the two sides via the hypothalamus is interesting since it is noticed that transmission is also active across the brain stem which, whilst normally being considered to be consciously unaware, gives a degree of physical coherence. It seems that what unites conscious awareness of the whole Self is tied up both biologically and neurologically with the uninterrupted flow of information between the two brain hemispheres. The analytical logic of the left hemisphere merging with the more instinctive feelings coming from the

right hemisphere make up our complex behaviour. It has been observed by James Bower (1994), a neurobiologist at Caltech Pasadena, California, that to work at its best the brain needs data in 3D form, it being a tremendously sophisticated device for moving through 3D space. He illustrates the brain's comparative slowness when working in 2D form by the way we might puzzle over a map or a photograph but understand even a complex 3D scene immediately. Interestingly, in his inaugural lecture (mentioned above), Hawking (1993:59) said:

Why space-time should be four-dimensional is a question that is normally considered to be outside the realm of physics. However, there is a good anthropic principle argument for [it]... Three space-time dimensions - that is, two space and one time - are clearly insufficient for any complicated organism. On the other hand, if there were more than three spatial dimensions, the orbits of planets around the sun or electrons around a nucleus would be unstable and they would tend to spiral inwards. There remains the possibility of more than one time dimension, but I for one find such a universe very hard to imagine.

It is my belief that just as Hawking uses a combination of general relativity theory and quantum theory to research the beginning of the universe so an awareness of these things would help us to understand the evolution of the brain and, hence, of the mind and the concept we have of the Self. Penrose (1994), believes that there are big gaps, perhaps fundamental ones, in physics that have not yet been recognized. He says that we know very little about how the world works and, as far as consciousness is concerned, he thinks that there is *something different going on*, something not necessarily outside science but, something outside science as we presently know it. Whatever it is, he considers it to be beyond the descriptions we fully understand in physics and certainly beyond the

computer to simulate. In his opinion, it is a mistake to see neurons in terms of transistors and wires; what we need is a new model, if possible, one that will span the gulf between macro, or classical, and micro, or quantum, physics. As a professor of Mathematics at Oxford University he is more aware than most of the precise nature of computation but, he states, mathematics is more than knowledge of clever computation, it requires *intelligent* understanding which computers do not possess. Here again we should remind ourselves that general relativity is a classical theory whereas quantum is counter-intuitive. It is one thing to understand that there are some 200 different chemical neurotransmitters in the brain which only change when there is some alteration in their compounds, that is, in their constituent elementary particles, but what we really require to know is more about the behaviour of these elementary forces. The reason for this is, perhaps, made clearer if we consider a point made by the science writer, John Gribbin, and the Cambridge cosmologist, Martin Rees (1990:33-4), that each carbon atom in our bodies can be traced back to stars that died violently before the Solar System formed and, therefore, we are quite literally made from the ashes of long dead stars. Notwithstanding that with the human brain containing an estimated one hundred million billion billion particles it is unlikely that we will ever be able to reliably predict human behaviour. Even though the basic physical laws that govern the activity of the brain are said to be comparatively simple, given its subjection to quantum uncertainty and the fact that we cannot measure its original state (short of dismantling it), a small change to this initial state would make a large difference to subsequent behaviour as is shown by chaos theory (1). Although it should be understood that, apart from its initial state (3) and the quantity of nerve data coming into it, because of the low energy of the brain the quantum mechanical uncertainty would have only a small effect in the brain's randomness (Hawking, 1993:120-1).

At the present time we are very much dependent for our knowledge upon biology and neurology; these are the equivalents of general relativity theory with which we map out the general area and carry out practical research. Coming to grips with quantum mechanics will, hopefully, add another dimension to our overall understanding. What we need to know is how a system at a micro level, i.e. quantum physics, giving such seeming chaotic and unpredictable results from what Feynman called a "sum over history" of all possible worlds, can produce a macro (level) world which has the order demonstrated by classical physics of which biology and neurology are a part. Here, I would emphasize what I said above about the geometric chaos of fractals which, after being multiplied a sufficient number of times, produce an orderly shape. How did this system evolve a brain with a cerebral cortex of some 100 billion neurons aided by about 10 times as many glial cells? Such questions would, presumably, be answered by Hawking's desired "theory of everything" but, in the meantime, we must work on with what we know(7).

Unlike a computer, the brain is not just processing information but is dealing with "meaning". Both our reasoning and our feelings make us what we are. We process thousands of bits of information coming from receptors every second using a biological organ of approximately 3lbs in weight, our brain, which is an immensely complex and convoluted development at the cranial end of a spinal cord averaging around 40 centimetres in length. This spinal cord and brain make up the central nervous system. The spinal cord starts to enlarge to develop the hindbrain - the medulla and pons giving rise to the cerebellum (or small brain) which plays a large part in physical co-ordination and balance. Further rostrally (forwards) is the midbrain followed by the forebrain. The brain is divided into two separate hemispheres joined by a large bundle of fibres called the *corpus callosum*. Each hemisphere is divided into four general function lobes: the frontal lobe, which goes far back towards the parietal lobe, being concerned with

emotional behaviour and the physical control of the body; the occipital lobe, in the rear (above the cerebellum), being concerned with vision; the temporal lobe, which is offset towards the rear and beneath the frontal lobe, being concerned with memory and language; and the parietal lobe, which is situated at the top and in front of the occipital lobe, being involved with the analysis of information coming from the senses. Chemical neurotransmitters, which the brain converts into volleys of electrical nerve impulses or ions, are used as both excitatory and inhibitory messengers between neurons. Cells are induced to fire only when the critical threshold, whereby positive messengers exceed negative, is reached. de Bono (1987:317) likens this process to the way in which one domino knocks down the next in a domino series; each cell is its own parallel distributed processing unit and its energy source is released and made active by being "triggered" by the activity in preceding cells. A neuron transmits from its centre (soma) along an axon fibre which may be several centimetres in length and attached to hundreds of much smaller dendrites. These end in a slightly bulbous terminator called a "synaptic knob" which all but connect with a tiny protuberance, called a "dendritic spine" on a receiving dendrite of another cell or directly to its cell body. The gap between the two, some forty thousandths of a millimetre or 250 nanometres in distance, is called a "synaptic cleft" or "synaptic gap" and it is this that is jumped by the neurotransmitter.

Nerve fibres in the central nervous system are myelin insulated cylindrical tubes or membranes (although not all nerve fibres are myelinated, many are not, especially in the peripheral nervous system) carrying a solution of mainly potassium chloride with a small amount of sodium chloride, i.e. salt, giving potassium, sodium and chloride ions. This membrane is a semi-fluid lipid, permeable to certain hydrated ions and not to others. Thus, the energy or electric current which the nerve fibre generates is carried by a flow of ions in fluid. Both potassium and sodium ions are positively charged whereas chloride

ions are negatively charged. When the nerve is in its resting state there are mainly chloride ions, with some potassium and fewer sodium ions inside the axon thus producing an internal negative state, while, on the outside, a positive state is produced by the presence of a majority of sodium over potassium ions with even fewer chloride ions. In order to maintain the negative charge on the inside and ensure an excess of potassium over sodium ions there is a "metabolic pump" which slowly pumps sodium ions back out through the surrounding membrane and a smaller one sending potassium ions inside (Penrose 1991:505). An active state is caused by a reverse process in which the inside of the membrane becomes positive and the outside negative. This is induced by a potential change in the membrane's transient permeability coming from a receptor or from the nerve endings of another nerve fibre. If the membrane becomes more permeable to sodium ions, then these will flow in through its electric field opening of "sodium gates" thus leaving the outside negatively charged with an excess of potassium over sodium ions and the inside positively charged with an excess of sodium over potassium ions. As the signal passes through the appropriate region of fibre to the next, "potassium gates" allow the potassium ions to flow to the outside of the membrane, starting to restore the negative charge inside and, as the signal recedes, so sodium ions are pumped out and potassium ions pumped in thus restoring completely the resting state of the nerve fibre in readiness for the next signal. The passage of sodium ions carrying positive charge is referred to as depolarizing the membrane, the spreading of which, from region to region, is known as the "action potential". Return to the resting condition is called repolarization and must be accomplished before any further electrochemical events, or depolarization, can take place (Penrose 1991:502-7).

Section Two

The Transcendental Self

Our scientific study of the brain in terms of anatomy, biology, physiology, chemistry and physics tell us much about its structure and method of communication but very little, if anything about, for instance, how memories are brought into consciousness or how we are able to imagine events that never took place. The truth is that we do not yet, nor may we ever, know. The cynic might say that we use the word "mind" in these matters whenever we reach the limit of our knowledge, very much as we refer to "God" for much the same reason, thus making God a "God of the gaps" as some theologians say. Understandably, many neurologists today would prefer to talk about "mental events" or "mental states" rather than the mind. Most of us would prefer to speak about what we know for sure, *sensu proprio*, rather than have to guess the most likely explanation but no matter how much we long for certainty and, with Hume (1975:165) and, later, the logical positivists, would commit our guesswork to the flames, life just is not that simple. As the sacked vicar, Anthony Freeman, found, the loss of faith in an absolute God "out there" (Freeman, 1994:70-1) who upholds the values of peace, joy, goodness, love etc. does not destroy these values but simply encourages us to cherish them as human values and be a little more modest in the way in which we hold them and in our insistence on them. Capra (1996) adopts the Santiago Theory of the mind (8) which says that the brain is the *structure* and the mind is a *process*. Using a tripartite view, Capra argues that the *process* of the mind, using the *structure* of the brain, produces a *pattern*. Again, although it is not clear in what way the tripartite view of Eccles and Popper (1983) *settles* the mind/body interaction problem, other than merely *complicating* it, the metaphysical problems are carefully rehearsed. They hold that the mind is a reality in its own right created by a "liaison brain" with which it interacts at three different levels, namely, those of; a World 1 of "physical objects and states" comprising the inorganic matter and energy of the

cosmos, the biology and structure of living things including the brain itself; a *World 2* involving “states of consciousness” giving subjective knowledge and experiences of perception, thinking, emotions, dispositional intentions, memories, dreams and creative imagination and; a *World 3* of “knowledge of objective sense” producing cultural heritage coded on the material substrates of philosophy, theology, science, history, literature, art and technology, together with theoretical systems such as scientific problems and critical arguments. Eccles, for example, argues that the question, “Where is the self-conscious mind located?” is answerable in principle. He says (p.376):

This can be appreciated when we consider some of the components of the self-conscious mind. It makes no sense to ask where are located the feelings of love or hate, or joy or fear, or of such values as truth, goodness and beauty, which apply to human appraisals. These are experienced. Abstract concepts such as in mathematics have no location per se, but can be materialized, as it were, in specific examples and demonstrations. Similarly a location of the self-conscious mind appears when its actions become materialized in its interaction with the liaison brain.

He goes on to argue that both the self-conscious mind and the states of World 2 have temporal properties but not spatial ones. By way of illustration he points to the transcendency of “clock” time over “experienced” time as when it appears to slow down in an acute emergency, or speed up when recalling and reliving past experiences or imagining some future event. We may also note the way in which a musical composer might perform a composition in his head in a fraction of the time that it will take the musicians to perform it in front of an audience(9). Eccles says that for the most part our experiences of experienced time and clock time are synchronized, as they must be for the

effective control of actions in response to present situations. Thus, I assume, he means us to understand that the brain and mind are similarly locked together. Actual neurological processes are involved in conceptions and perceptions of both a mind and its created Self and these change in accordance with our focus of attention at any one time.

Popper (p.464) endorses a similar view about perception by recounting a lecture that he gave to a student society in Oxford shortly after the publication of Ryle's *Concept of Mind* (1949) in which he, Popper, offered an alternative outline to the mind-body problem. The students had been much impressed by Ryle's book and they kept repeating that what Popper was saying was exactly what Ryle would have said. So, in despair, Popper eventually said, "All right, I'll make a confession, I believe in the ghost in the machine. You cannot say that *that* is exactly what Ryle would have said". Later on in their book (p.486), Popper likens the self's (mind's) relationship to the liaison brain to that of a driver and a car; the things that the driver does has certain effects although he hardly understands the causal chain he sets in motion. Popper says, "The working of the brain is partly accessible and partly inaccessible to the self". Here, of course, our consciously created Self is being influenced, not only by the conscious mind, but by mentally unconscious neurological processes.

In their sixth dialogue at the end of *The Brain and It's Self* both Popper and Eccles agree that the "self" is a creation of World 3. Popper says (p.495), "I think that the self in a sense plays on the brain, as a pianist plays on a piano or as a driver plays on the controls of a car". Clearly, Popper is not asking us to believe in some absolute homunculus, a neuropianist, with objective reality accessible to scientific refutation but, perhaps, he is asking us to accept a relativistic view of self whose neurological creation is dependent

upon the setting-up of a recursive loop between one's conscious awareness and unconscious neurological states. The biologist Reaney (1995) reminds us that similar feedback loops have evolved for survival purposes and as such operate at the level of cells, the individual units of life, all the way up to large animals in accordance with the laws of chemistry and physics. (Recall the way in which messages are passed around the central nervous system only as the critical point is reached whereby excitatory impulse messengers exceed those that are inhibitory). Just as our fight/flight mechanism comes into action by the release of adrenalin in a stimulation and response sequence to danger so we restore equilibrium caused by mental angst, such as the fear of death, by the creation of myths. A similar idea, I believe, applies to the creation of Self. Kant (1933) argued that the Self, as a subject of consciousness, is transcendental and, as such, is neither open to scientific enquiry nor can it be the object of its own awareness.

Holding the mind to be a reality in its own right created by a "liaison brain", apropos Popper and Eccles, does seem to be fraught with difficulties which need not be addressed here, and for reasons of clarity, we may advantageously put to one side, when dealing with questions about the Self. We should carefully separate the problem of the existence of the mind from that of the existence of the Self. The existence of the Self as I conceive it as being a "myth" avoids getting into the situation of having to defend it as an entity in its own right rather than a story which holds all our experiences together. It is, at one and the same time, both an "emergent property" and a recursive feedback loop by which those experiences are connected in consciousness. The Self does, however, serve as a term of absolute value against which to instantiate an identity in the same way that Newton, believing space to be the mind of God and, therefore, absolute and objective, used it as a framework against which to plot the material bodies of the Universe in terms of their location and velocity. I believe that just as Newton's (personally accepted)

absolute enabled him to produce useful calculations about the Universe so we need to accept self-imposed absolutes, albeit not closed to critical inspection and possible improvement in the light of current knowledge at any one time, as necessary for our survival because of the nature of beings that we are(10). A fish that refuses to live in water will die! I argue in my Chapter Five - *Illusion and the Imagined Self*, that Self is symbolic and exists, along with other values that are necessary for our survival, only within the consciousness of the human mind.

As an indexical, the term "Self", like the terms "I", "here" and "now", or demonstratives (called "token-reflexives" by Reichenbach) like "this" and "that", belongs to the perspective of the subject rather than to an objective order. It has no more actual location in time or space than does the secondary, and subjective, quality of colour. Nevertheless, it is an essential reference point as we interpret the world and our relationship to it. Sir John Eccles (1983:253) quotes from V.B. Mountcastle (1975):

Each of us believes himself to live directly within the world that surrounds him, to sense its objects and events precisely, to live in real and current times. I assert that these are perceptual illusions, for each of us confronts the world from a brain linked to what is "out there" by a few fragile sensory nerve fibres. These are our only information channels, our lifeline to reality. These sensory nerve fibres are not high-fidelity recorders, for they accentuate certain stimulus features, neglect others. The central neuron is a story-teller with regard to the afferent(11) nerve fibres; and he is never completely trustworthy, allowing distortion of quality and measure, within a strained but isomorphic spatial relation between "outside" and "inside". Sensation is an abstraction, not a replication of the real world (12).

Here, we could say, is a neurological version of the view expressed by Schopenhauer in his *The World as Will and Representation*. What we are given, by our senses, of objective reality - what is actually "out there" - is the subject of selection and interpretation; this includes selecting out extraneous matter and interpreting other input so as to produce secondary qualities(13). Indeed, much of the selection process is done at the level of the unconscious and most sense data do not even reach conscious awareness for reasoned assessment. Just as Aristotle, followed by Locke, wrote that there is nothing in the intellect that is not first in sense-perception, so Schopenhauer (1966:vol2, p.71) saw the intellect like a bank of issue which must always have ready money in the safe with which to meet, on demand, all the notes it has issued. The money he likened to our perceptions or primary representations while the notes are like our concepts and are secondary. Perception, Schopenhauer thought, belongs to understanding alone and, even in man, is irrational as when it deceives us into thinking that things seen at a distance are much smaller than they are; it is our reason that disabuses us of this deception. As Schopenhauer (1966:vol1, p.25) puts it, "Reason can only *know*". Albeit, he didn't see man as primarily a rational creature at all but subordinate to the purposes of the Will which, itself, is the root, origin, and controller of the intellect. As a man who saw life as a wretched business and who had decided to spend his time trying to understand it (Magee, 1983:9) Schopenhauer seems to have managed several insights ahead of his time. Magee (p.263) writes:

Schopenhauer was the first great philosopher to see the mind in biological terms...In addition, Schopenhauer had shown more insight than anyone else into the role of the unconscious at a time when educated people were beginning to encounter that concept for the first time.

(Again see my Chapter Two, *Consciousness and the Self*).

Even though Schopenhauer thought that he had made an advance in modifying Kant's conviction that the Self was unknowable, he was aware that the "I" is "opaque and therefore remains a riddle to itself". He writes (1966:vol2, p.193):

...even in self-consciousness, the I is not absolutely simple, but consists of a knower (intellect) and a known (Will); the former is not known and the latter is not knowing, although the two flow together into the consciousness of an I.

It is, for Schopenhauer, the Will, as the transcendent being-in-itself, which produces the intellect by which it derives the means of expression. It is this intellect alone that *knows* and inwardly represents our perceptions of the outside world and represents the Self to conscious awareness. Although an atheist, Schopenhauer considers the Will to be indestructible even by death. He maintains that the place to put man's real inner nature is not in consciousness but in the Will. Consciousness is conditioned by the intellect which is an accident of our being and a function of the brain. "One can just as easily believe in a digestion without a stomach as in a knowing consciousness without a brain," he writes (*ibid*, p.199). He continues (p.201):

The brain, together with the nerves and spinal chord attached to it, is a mere fruit, a product, in fact a parasite, of the rest of the organism, in so far as it is not directly geared to the inner organism's working, but serves the purpose of self-preservation by regulating its relations with the external world.

The Will is clothed and given an objective image, according to Schopenhauer, by the brain which is orientated to space, time, and causality; the Will is metaphysical and the intellect (brain) is physical. Here, I am reminded of Eccles' "liaison brain" where conscious awareness is somehow seen to read off other activity in the brain. As far as the world of phenomena is concerned, although Schopenhauer allows for the possibility that the Will, as the thing-in-itself, might have determinations, qualities, and modes of existence which are unknowable and incomprehensible to us, without the physical organism there is empty nothingness. My own thought is that Will is now best thought of as being expressed in DNA and that here we have a form of evolved intelligence of which brain-centred consciousness makes us aware. So, again, we have an argument which leads to the conclusion that the mind (consciousness) has a physical basis in the brain whose narrative of the created Self is a combined story of both the Will (its history) and the imagination.

The mind should, therefore, be thought of only in relation to the central nervous system and its experiences of the environment through sense perceptions for these are what gives it expression. This expression gives rise to an "imagined" self (see my Chapter Five - *Illusion and the Imagined Self*) which, again for survival purposes should be given absolute value within the consciousness of the mind. Trying to answer the question in the first paragraph of my introductory chapter - If the brain is damaged, does this affect the mind, diminishing the "I", or is it just that it may make communication so much more difficult that it only appears to do so? - I would want to say that if the mind is the expressed product of the brain, then either damage or ageing may possibly, but not necessarily, be damaging in this respect. If, however, the mind is universal - having an intelligence of its own - and the brain simply *gives* it expression, then it seems reasonable to suggest that communication of the "I/personality" would involve a greater struggle than might

otherwise have been the case if brain damage had not occurred. Whichever of these two views we take seems to make little, if any, practical difference since, in either case, we cannot *know* the noumenal mind apart from the phenomenal brain. What is important to recognize is that the brain is far more than an organ to make us consciously aware of ourselves and our sense perceptions; it is a storer of memories/information, an imaginative creator, and the controller of our physical movements. Here is an evolved intelligence the processes of which we remain consciously unaware. As such, the mind can respond to a damaged brain in the same frustrated way that we might respond to some external technical gadget that is malfunctioning. This can be seen if we consider the way we respond to our own periodical temporary losses of memory when we sometimes say, "it's on the tip of my tongue". We do not, in such circumstances, think that we are losing our mind but, rather, that something we use, namely, our memory - a function of our brain, has let us down. People with a similar but permanent problem may be even more frustrated since, apart from this one area where a brain dysfunction occurs, they live normal lives and may have above average intellectual capabilities. Such is the case mentioned by Dr Oliver Sacks (1986). He tells us that Dr P. was a musician of distinction and teacher at a music school. Dr P. increasingly failed to see faces and saw faces when there were no faces to see. When outside he would pat the heads of water-hydrants and parking meters taking them to be the heads of children. He would amiably address carved knobs on the furniture and was astounded when they did not reply. Not realizing that there was anything seriously wrong - he was actually suffering from progressive "*agnosia*", a term coined by Freud to describe certain disorders of recognition and perception - he laughed off these "mistakes" until, some three years later, when diabetes developed. Aware that such a condition could affect the eyes, Dr P. consulted an ophthalmologist who took a detailed history and examined his eyes closely. He was told that there was nothing wrong with his eyes but that he should consult a neurologist since

there was trouble with the visual part (cortex) of his brain. Sacks was the neurologist consulted. After the first consultation Dr P. looked round for his hat. Reaching for his wife's head he tried to lift it off and place it on his own having, apparently mistaken her head for his hat; the wife looked as though she was accustomed to such things (1986:10).

Sacks tells us that:

Dr P.'s temporal lobes were obviously intact: he had a wonderful musical cortex.

What, I wondered was going on in his parietal and occipital lobes, especially in those areas where visual processing occurred?

Sacks wondered how his patient managed to do anything - dressing, going to the lavatory, having a bath, etc. Dr P.'s wife answered that question: apparently, Dr P. did everything whilst singing. But if he is interrupted he loses his thread and comes to a complete stop; he does not recognize his clothes or, even, his own body. Sacks told his patient that he was unable to tell him what was wrong and could only say what he had found to be right which was that Dr P. was a wonderful musician and that music was his life. His prescription was a life that consisted entirely of music - music had been the centre of his life and now it should be made the whole. Interestingly, Sacks comments (p.17):

In *The World As Will And Representation*, Schopenhauer speaks of music as "pure Will". How fascinated he would have been by Dr P., a man who had wholly lost the world as representation, but wholly preserved it as music or Will.

Despite the gradual advance of his disease, Dr P. lived and taught music to the last days of his life. Although he may not have recognized the faces of his students he, otherwise,

went about his life normally using music as a foundation against which to direct and orientate himself. Again, like Newton's accepted absolute space, music was a dependable value against which to plot his practical everyday life. Such cases of "loss" are harrowing in that one's awareness is unaffected. As in the case of a lost limb one is aware of something which is no longer there to be used. In such cases, the concept of Self - the imagined Self - can be built only on what remains as the focus of attention and for Dr P. this was music. I would not describe my own physical difficulties as being "harrowing" in any way but merely frustrating at times or, as I sometimes say, "just a damned nuisance".

As I said at the beginning, I have cerebral palsy. The effects of this is to cause me to have only a very poor sense of balance, poor physical co-ordination of my limbs with one side of my body (the left) being easier to control than the other, and a speech problem tied in with irregular breath control. It is, of course, very difficult to identify which parts of one's brain are causing the problem and since I have not been able to obtain an analysis using modern scanning equipment (14) I can only fall back upon what I have learned about neurology to try and identify cause from effect. When the brain damage is to the *pars intermedia* of the cerebellum, which lies below the two cerebral hemispheres and is attached to the brain stem, physical movements are irregular. This is because the *pars intermedia* is failing to correctly monitor and control movements instigated by the motor cortex. Eccles tells us (1983:289) that we can regard the *pars intermedia* of the cerebellum as acting like a controlling system on a target finding missile. It acts as a closed loop system which, by monitoring and informing the motor cortex, contributes to the smoothness and accuracy of voluntary movements by modifying the motor commands issued by the motor cortex. The more we are unaware of skilled movements, as for example in a game of tennis, the better they will be performed. It is thought that throughout life, but particularly when young, we are engaged in an incessant teaching programme for the cerebellum which develops the automation that adds finesse and skill

to many of the tasks we perform. This means that things like playing tennis are out of the question for me since I am incapable of developing the co-ordination required to estimate the trajectory of the ball, visually track, maintain balance whilst running to where it is expected that the ball will fall, and intercept and hit it. In the normal state of affairs anyone would find such things difficult and their performance would necessitate much concentration at first, as when we learn to drive a motor vehicle, but with practice less concentration is required as the unconscious autonomic nervous system begins to assume a role(15). We can imagine that a tennis player would never perform to professional standards if s/he had to consciously control each shot, the game being far too fast to allow this to happen. When the *pars intermedia* is damaged more things remain under conscious control or, at least, a conscious effort is made to counter false and impaired effects, such as movements. A sense of balance is one of these, as is the gross movements when one actually needs finer ones to perform more delicate tasks. I find that if someone, not realizing my difficulty, calls to me unexpectedly from behind, my attention is interrupted and, hence, I may lose my balance. Similarly, although I have a good grip and, therefore, I am useful for unscrewing tight bottle tops, I am lethal if I need to hold something that is delicate since I find it hard, sometimes, to moderate my grip and end up squashing the item. For example, when drinking from a polystyrene cup I find it helpful to use two such containers, one inside the other, so as to add strength and be less susceptible to collapsing when I grip too hard.

The above paragraph demonstrates that far from diminishing a sense of one's identity, it is possible that damage to certain areas of the unconscious brain, by which I mean those that are not aware, actually intensifies the struggle involved just coping with everyday life as one seeks to compensate for realized impairment. Furthermore, providing that there is nothing wrong with one's creative functions then these are stimulated by the very fact

that one is unable to look to one's peers as a measure of what is possible and is, therefore, thrown upon one's own resourcefulness in finding ways around difficulties, perhaps by thinking of "unusual" solutions to problems. Very often, the usual way of doing something is blocked by one's inability in some area. A very simple illustration of what I mean is my own inability to lift a full cup of liquid to my mouth without spilling it. For a long time this caused me so much embarrassment that even when I was thirsty I would refuse a drink and felt anxious when I expected the possibility that I might be offered one. I am pleased to say that with the increasing years my common sense has got the better of me and my embarrassment takes a back seat to my thirst; the solution, after all, is simple; I ask for the cup/glass to be placed on a table, or anything else that I can sit at, and I bend down so that my lips touch and balance the cup while I tip it towards me, drinking sufficient to allow me to raise both the cup and myself whilst I still steady the cup by holding it tightly against my lip. People who do not know me may give me a second glance since it is strange to see a grown man do such a thing. Of course, it is not a thing that I would do if there was an alternative but, in the circumstances, it seems to be a pragmatic approach which is intended to cause no inconvenience or offence to others while allowing me to cope and take a part in the everyday life of the community.

In our search for identity and personal integrity perhaps we should remember that it is the irritation of the grain of sand in the oyster that produces the pearl. Schopenhauer, as we have seen, allowed for the possibility that the Will, as the thing-in-itself, might have determinations, qualities, and modes of existence, which are unknowable and incomprehensible to us. He also believed that struggle was part of the process of salvation which might lead to a better existence - this would not be on account of intellectual activity but by the renunciation and denial of self-will. As Magee (1983:372-3) writes:

He also believed that such truths stated generally in this way do not make much impression on mankind at large, and that for this reason the great religions present them in more interesting forms, more concretely and specifically, in the shape of history, myth, legend, fable, parable, prophecy, song, commandment, ritual, social institutions, architecture, art, and so on. To the simple-minded all these metaphorical constructs are presented as literal truths, and are believed in them by them as literal truths; but literally they are not true: it is their symbolic content that is true (16). Thus, for instance, Schopenhauer positively disbelieved in the existence of a personal god, and a fortiori did not believe in the divinity of Jesus, and therefore cannot in any serious sense what ever be said to be a Christian - and yet he believed in that great fundamental truth contained in Christianity as well as in Brahmanism and Buddhism, the need for salvation from an existence given up to suffering and death, and its attainability through the denial of the Will, hence by a decided opposition to nature, is beyond all comparison the most important truth there can be.

Schopenhauer's way of finishing his day was to read the Scriptures of India - *The Upanishads* or, maybe, *The Bhagavad Gita*. Certainly, his philosophy would not have allowed him to believe in the reincarnation of a knowing Self, or intellect, but he did see the Will, as the thing-in-itself - the mystery of "life", continuing. Here, of course, there is no personal content so when "we" are dead that is the end of us. What is unclear, and still remains so, is the actual content of the Self whilst we are alive. To what extent are the myths etc. that we consciously tell ourselves less necessary as survival value than the unconscious way in which our brains represent the world to us. Can we, should we, adopt a more scientific approach to the "whole" of life and will we survive if we do? Or

do we need Schopenhauer's dual approach, clinically scientific for the most part, but able to relax into his own survival needs for the rest? Sacks writes (1986:22ff) about a patient with Korsakov's (dementia) disease which, although leaving past memories intact, causes the loss of memory of current events within seconds. Such patients live in a kind of time-warp, clearly remembering their lives in the past but unable to connect events in the present. Sacks says (p.28):

"Only connect" - but how could he connect? What was life without connections?

"I may venture to affirm," Hume wrote, "that we are nothing but a bundle or collection of different sensations, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement."

Sacks considered whether there could be any depth of abiding feeling or thinking remaining in this man or had he been reduced to a sort of Humean drivel, a simple succession of unconnected impressions and events. His conclusions, following the Soviet neuropsychologist A.R. Luria from whom he had sought an opinion, were that:

A man does not consist of memory alone. He has feelings, will, sensibility, moral being...It is here...you may touch him, and see a profound change.

Sacks thought that although his patient existed in frozen time, around 1945:

...humanly, spiritually, he is at times a different man altogether - no longer fluttering, restless, bored, and lost, but deeply attentive to the beauty and soul of the world, rich in all the Kierkegaardian categories - the aesthetic, the moral; the religious, the dramatic. I had wondered, when I first met him, if he were not

condemned to a sort of "Humean" froth, a meaningless fluttering on the surface of life, and whether there was any way of transcending the incoherence of his Humean disease. Empirical science told me that there was not - but empirical science, empiricism, takes no account of the soul, no account of what constitutes and determines personal being. Perhaps there is a philosophical as well as a clinical lesson here: that in Korsakov's, or dementia, or other such catastrophes, however great the organic damage and Humean dissolution, there remains the undiminished possibility of reintegration by art, by communion, by touching the human spirit: and this can be preserved in what seems at first a hopeless state of neurological devastation.

As someone whose mental abilities are easily misconstrued by strangers because of my physical awkwardness, I am well aware how frustrating it can be for anyone to be thought of as "not all there". Once people have made that judgement then there can be no proper communication between people; it is not so much the physical difficulty that a person might have in being understood which is the major problem but the fact that someone has already judged that what s/he has to say is not going to be worth the effort of listening. Nevertheless, such people do sometimes listen in spite of themselves when they have to. I am sometimes amused by two different types of reaction to me - the before and after. Before giving a public address, even when people have known me to be the speaker, I find that some people are disinclined even to give me the time of day, but, after seeing me in action it's as though they think to themselves "well, fancy that!" and they come and are most pleasant. Now, I understand the problem and I do my best to put people at their ease but it does make me aware that someone, like myself, with a mind longing to express itself but unable to break down the barriers must be awfully frustrated. In fact, I sometimes feel this myself when among a crowd of strangers and

not being able to do anything that would convince people that I am not as stupid as my body language might make me out to be. On these occasions it is like being in a glass box - able to see what is going on but unable to join in.

The film *Awakenings* tells the story of a group of 20 patients, survivors of the sleeping-sickness epidemic, *encephalitis lethargica*, which swept the world during the 1920's, who were awakened for a brief period of time by the administration of the chemical L-DOPA, given by Dr Sacks in the late 1960's. In the book (Sacks, 1991) from which the film was made, Sacks makes it clear that, in his opinion, institutions, insofar as they are coercive (17), aggravate the sickness of their inmates. He states, concerning one such patient, that both her Parkinsonism and her neuroses all but disappeared in more human conditions, e.g. in the hospital gardens or when visited by a much-loved sister. It cannot be doubted that we can be profoundly affected by things that stir us emotionally, such primitive responses having evolved ahead of our abilities to reason, and we would be foolish to underrate their survival value. It is far more reasonable to accept those things that have shown to be valuable, even when they are not things that can be put under a microscope and empirically tested, than to reject them out of hand. So when someone like Sacks, having exhausted the current limits of scientific knowledge, starts talking about there remaining the undiminished possibility of reintegration by art, by communion, and touching the human spirit, having seen positive results from such things then we should pay attention (18). As much as we might rate the value of science, there are human problems that science will not touch and we ought not to ignore them simply for this reason.

All this is not to underestimate the problems that some people have, nor is it to ignore the commitment involved in helping them. It is, however, to understand how one might

become a prisoner of one's own neurological states. A couple (Mills, 1995) who adopted a boy found that he seemed to withdraw and live in his own little world. He was diagnosed as being autistic. He *appeared*, even at the age of nine years, not to have developed a sense of Self. For example, when he had done something wrong, say dropped something, he would refer to his *hand*, rather than himself, as having been naughty (perhaps, suggesting an absence of ability to recognize a connection between cause and effect). Although having knowledge, he lacked understanding, as shown in his ability to repeat a story word for word and yet be unable to tell it in any other way or to answer questions about it or, the way he would stand at the curb-side and say rhymes that warned about the dangers of stepping out in front of oncoming traffic at the same time as doing just that. He had little, if any, sense of pain; because he had seen other children fall over in the school playground and howl over a cut knee etc. he would imitate the same response to the least, minutest injury, and yet when, because of an obsession with light, he kept his face so close to the bulb of a table lamp that it caused a nasty blister on his nose he made no adverse response. His abnormal emotional reaction was highlighted by his response when his adoptive mother's grandmother died; the unreality of death was made plain when in answer to his mother's grieving he said that "it (death) had served her right" and then by his asking when they could get grandma out of the coffin (as one might get a toy out of a cupboard). He was acutely aware of things that would remain unnoticed to most people such as the fact that all the lamp posts in the area where he lived had a particular hole in their caste and were given a unique number. His obsessional behaviour was such as to cause him, whilst out with his mother, to stop at each lamp post and read off the number, which he would remember, and put his finger into the hole and, because they had once stopped to eat at a McDonald's restaurant they had got to eat exactly the same things that they had had the first time on all subsequent visits. Failure to comply with this routine would cause behavioural

problems, maybe because it upset the boy's attempt to bring *order* out of the *chaos* of his world where his perceptions of everything were so fragmented.

Of course, no one can know what it is like to be someone else or be certain how they perceive the world. We cannot even be certain that when two people look at a particular colour they are experiencing the same thing; we only know that they call it the same colour because, from earliest childhood, whenever they have experienced seeing that colour they have been told its name, e.g. red, blue etc. (19). We all probably experience the world in slightly different ways but within a band which we acknowledge as "normal" (20). For example, although no human being without the aid of scientific equipment would hear the ultrasonic sound that enable whales to communicate over extraordinary distances, this is "normal" rather than "abnormal" for our species; the reason for this bit of reality being denied us is that we are not equipped with the necessary sense organs. But then, it is not normal for people to display such extraordinary talents shown by autistic savants, like Stephen Wiltshire, who from the age of around seven years showed a preoccupation with drawing buildings of great complexity and size: after a brief glance at a complex and monumental building, like London's Albert Hall or St Paul's he was able to draw it quickly from memory in unbelievable detail (Sacks, 1995:186-232)(21). Neurological impairment is mysterious in many of its manifestations but then neurological potential is not that well understood either.

In summary:

- 1) The mind is dependent on the brain which gives it expression and probably creates it.

2) Only certain parts of the brain are involved in conscious awareness and, while we are unable to say what affect damage to these areas would have on the mind, it is likely that lesions to some other parts do not diminish the mind but, simply, make conscious control that much more necessary whilst, at the same time, more difficult.

3) The Self is not the mind but is created out of the mind's need to spin unity out of fragmentation and order out of chaos. That such a "myth" is not materially real matters as little to us as the material unreality of music mattered to Dr P.

4) The concept of Self must be seen as having "survival" value. It may be no more "out there" than is the God of our belief, the values of goodness and love, or a musical composition. All these things have, however, survival value and should be cherished as such, lest, in our desire to be independent of our nature we destroy some of the very things on which, unknowingly, we depend. Such things are like truths that are expressed *sensu allegorico* because they cannot be pinned down in any tangible way. In his Translator's Notes to Nikos Kazantzakis' novel, *The Last Temptation*, P.A. Bien says that Kazantzakis "sought to convert matter into spirit by means of art" (Kazantzakis, 1960:513&517). In a similar way authors, like Salman Rushdie, have made the point that religion *is* art, a point which surely would have been appreciated by Schopenhauer and certainly is by Sacks.

In this chapter I have looked at the material structure of the brain whose neurological functions gives us the *conscious* notion of (our)Selves as transcending those material foundations. Firstly, I looked at the biological structure of the material brain with its

association to consciousness, our concept of mind and our notion of a Self. My second concern was with the value of our transcendent concept of a Self which underpins our personality as an integrated whole and what light might be shed upon the process by studying some of the difficulties caused by neurological impairment.

Chapter Two

Consciousness and the Self

In this chapter I want to look at the neurobiological input which goes into the creation of the Self and the contribution made by both our conscious and unconscious processes. By demonstrating the way in which we are in the grip of evolved biological programming I will argue that our present environment can be coped with far better when we consciously act to turn our imagined Self into a *centred* Self.

Section One

Neurological Underpinning

At the macro level we are quite comfortable with the concept of binary opposition which, apart from the obvious division into male and female, light (day) and dark (night), or the Cartesian tension between mind and body, operate at the more fundamental, or micro, level of cell division, the double helix of the DNA molecule, and that between particle and anti-particle. The distinction I want to concentrate on in this chapter is that of the conscious and the unconscious. I was bemused one day recently when reflecting upon an event which seemed to demonstrate an ability of the unconscious mind to work, unbeknown to the conscious mind, on a problem and to present an answer to consciousness. After lunch I had joined my wife in an attempt to fill in the crossword in the daily newspaper and eventually we were left with just two clues which we could not answer. That evening, as we sat watching television, the answer to one of them popped into my head. The following morning, seeing the unfinished crossword on the table, I read out the other unsolved clue and my wife immediately gave the correct answer.

Where do such solutions come from? It is as though we had consulted some problem solving service with the request that they should have the solutions ready for us later on and, without further attention from us, this is what happened. What is this “black hole of the mind” into which our thoughts are dragged? Hofstadter (1982:283), musing upon the divide between conscious and unconscious mind, considered it to be one of the most disturbing aspects of trying to understand the mind. Often our conscious thoughts seem to spring from areas of the mind over which we have no control and, although we take credit for the creative ideas we have, we often realize that conscious effort has had very little to do with it. This raises the question of who we really are and what neurological input goes into the creation of the Self - just how much freewill do we have, given what we derive from our genes?

It appears as if thoughts from the level of consciousness somehow pass a sort of “event horizon” where they are beyond our attention. Unlike the cosmic black hole which seems to swallow light, etc., without returning more than an occasional particle, the divide between the conscious and unconscious mind permits a two way traffic which becomes transformed as it travels beyond the divide in either direction. It is as though the light that we consciously recognize, in particular colours with forms and boundaries, becomes a pure light which is undetectable, that is, without recognizable form, in the unconscious and that *vice versa*, unconscious thought takes on recognizable form as it passes the threshold into consciousness. We may also think of this process of unconscious thought becoming conscious as being vaguely analogous to what happens with a television picture. Meaningful scenes are sent from a studio via an array of particle-waves. Beams of electrons from a cathode ray tube are sorted by electrical and magnetic fields so that the dots on the screen reproduce meaningful pictures. It seems that we are talking about two different levels, or views, of reality - the familiar one of common sense, or classical

physics, and the more underlying theoretical and less recognizable one of particle and quantum physics.

At the most common level of reality we recognize our bodies as flesh and blood. Another view, or level, is that they are matter constructed of atoms, and again, of particles or waves of energy. The laws that govern these micro levels may spill over into, and affect our lives at a conscious level, although it could be that because of the low energy state of the brain the quantum mechanical uncertainty would be minimal. Nevertheless, we do recognize that the presence of different chemicals in the brain has a vast influence on who we are, our behaviour and how we think and feel, and that chemicals change only when there is some alteration in their compounds, that is, in their constituent elementary particles. We can see the influence of chemicals in the body from at least around the sixth week of the existence of a foetus when, depending upon the presence of a Y chromosome, it will develop testes. Before that, the foetus is hermaphroditic in that it has the same structure whether it is male or female. From this time onward, and even before the existence of the external genital organs and the brain, the testes produce androgens or male sex hormones. However, the presence of two X chromosomes will cause the foetus to continue developing in its initial, unaltered state until around the sixth month when differentiation of the gonads cause the formation of two ovaries. Both the structure and the operation of the brain is, of course, affected by these different hormones. Moir and Jessel write (1989:38-9):

While the brain is developing in the womb, the hormones control the way the neural networks are laid out. Later on, at puberty, these hormones will revisit the brain to switch on the network they earlier created. Their action is like the process of photography: it is as if a negative is produced in the womb, which is

only developed when these chemical messengers return in adolescence. Differences in human behaviour depend on the interaction between hormones and the brain.

Later on in their book (p.125) they quote Freud, who wrote to his colleagues:

...bear in mind that someday all our provisional formulations in psychology will have to be based on an organic foundation...It will probably be seen that it is special chemical substances and processes which achieve the effects of sexuality...

Notably, Darwin in his *Origin of Species*, said that psychology would be based on a new foundation, "that of necessary acquirement of each mental power by gradation" (Humphrey, 1986:63). Although Darwin himself never specifically tackled the problem of the "necessity" of consciousness, the assertion made by his disciple, Thomas Huxley, that consciousness has no effect upon behaviour, likening it to the steam whistle on a locomotive which is caused by steam escaping from the valve but having no effect upon the engine, was challenged, as Humphrey reminds us, by Lloyd Morgan who stated that any evolutionist who accepted it should account on evolutionary grounds for the existence of a useless adjunct to a neural process. (See my chapter one - *Neurology of the Self*).

Clearly, knowledge of this biological base has been and is continuing to be developed and, particularly, in neurobiological terms we are just starting to get a glimpse of the complexity of the central nervous system at which we marvel. The neurobiologist, Gerald Edelman, writes that we are at the beginning of a neuroscientific revolution by the end of

which we will know how the mind works, what governs our nature, and how we know the world. He emphasizes the prime position which should be given to biology and neuroscience for an understanding of the actual matter underlying the mind and its principles of organization. He insists that psychology should always defer to biology. Our 3lb brain which looks like a pickled walnut or a helping of porridge and which the ancient Egyptians used to discard when mummifying their dead believing it to be mere packing for the head since it did not bleed in death, is the most amazing communication system in the known universe. It controls the production of hundreds of chemicals in exact quantities for delivery to precise locations and negotiates neural connections (synapses) whose number exceed the total human population of the earth by around 200,000 times(1). The fabric of this organ, of which the exponential calculation of all its possible dendritic connections exceed the number of atoms in the known universe, whose nerve cells and their delicate connections were hardly known in the time of Charles Darwin (1809-1882), has begun to be discovered in just over the past one hundred years. Our higher thoughts, which distinguish us from other animals, take place in the cerebral cortex which varies between two to five millimetres in thickness, is about the size of a man's handkerchief, and covers the two hemispheres of the brain. This cortex, which is the latest part of the human brain to evolve, now accounts for around 80 per cent of its volume and its neurons are thought to be sensitive enough to register quantum-level phenomena. It seems that what happens at the micro level must have an effect at the macro level and this is reinforced when one reflects that a particle of light, a photon, that is, a single atomic event that took place within a star aeons ago (Peat, 1996,194), affects the sensitivity of the optic nerve and, hence, our ability to see. The physicist Peat (pp.211-2) speculates:

Processes within the stars release energy in the form of photons that travel great distances through space until, by chance, some of them happen to enter the human eye. Within the retina of the eye other quantum processes take place, leading to an unfolding of activity within the brain. In a sense, therefore, the processes within the heart of a star enfold into the photon and, as it reaches the eye, photon activity unfold into consciousness.

Curiously enough, Einstein's theory of relativity tells us, that with respect to the light ray, the time taken for the journey from star to eye is zero-no time at all...

...according to quantum field theory, (2) a photon cannot be emitted unless something is already there to receive the emission. Indeed, it is not so much that the photon leaves the star and enters the eye, but rather that the eye-consciousness and the star lose their separate distinctions within an overall conscious process.

Here we have then a cause at the micro level producing an observable effect at the grosser macro level. Working at such different levels we realize just how cut off and compartmentalized they seem to be from each other. This is surely nowhere more in evidence than when we try to link the physics of energy/matter with the psychology of thought; at what point and how does one become the other? Are *thoughts* below consciousness in a particle state and yet ordered, as are the electrons transmitted to the cathode ray tube of the television set which are re-sorted to produce meaningful pictures on a phosphorous-coated screen, in such a way as to be transformed into conscious thoughts? Is it the focus of our attention that causes one to become the other? (See my illustrations below of both Schrödinger's thought experiment and Wheeler's delayed

choice experiment.) To answer such questions, perhaps, what we need is a better understanding of quantum physics. In order to do so, we have to be prepared to step outside of the classical paradigm with its Aristotelian logic. Here categories and boundaries give way to the context in which events occur, e.g. whether particles or waves appertain. Instead of division by categories we have a process in a complex web of relationship in which balance and harmony are involved.

What we have at present is what surely must be the incomplete quantum theory of which Einstein is reported to have said reminded him of “the system of delusions of an exceedingly intelligent paranoic, concocted of incoherent elements of thought” (Zohar, 1991:8). The paradox caused by two seeming inconsistent views whereby, on the one hand, we become aware of particles and, on the other, we become aware of waves, suggests that there is something missing. The Austrian physicist and philosopher, Irwin Schrödinger (1881-1961) demonstrated this uncertainty in which a wave of energy becomes a particle of matter. It appears that by some process of interference, which may include observation and/or measurement, one state inexplicably flips to the other and this raises the question of the possible role of human consciousness in the formation of physical reality. Schrödinger’s thought experiment was that a cat might be placed inside a box into which a bit of radioactive material would also be placed. The radioactive material, which obeys the rules of probability, has a 50% chance of shooting out a decay particle in an upward direction, in which case it will strike a particle detector thus triggering a switch that releases lethal poison into the cat’s feeding bowl. Alternatively, the decay particle goes in a downward direction, strikes a different particle detector which, this time, triggers a switch to release a nourishing meal into the cat’s bowl. Whether, on opening the box, we have a live cat to stroke or a dead one to bury is uncertain and a matter of probability. What it is that collapses the wave function is not

known but it is apparent that until this fixed reality comes into being its nature is uncertain. Indeed, the wave/particle is a paradox to the extent that, according to mathematical physics there can be no fixed reality and all that we have is a wave of probability that fans out into many possibilities - a superposition of states - that cannot be collapsed but, of course, our *experience* tells us otherwise. Although, in quantum reality, Schödinger's cat is both alive and dead, the quantum wave fanning out between the two possibilities, we are aware that on observation the particle aspect of the wave/particle function will be only too evident. Likewise, we know that although no neurosurgeon has ever discovered a thought when operating on the brain this does not convince us that we ought to question our *experience* of thoughts.

Many of the things we learn about quantum physics seem to fly in the face of classical physics and common sense and it was to highlight the seeming absurdity of the Copenhagen Interpretation, that a wave of probability existed until collapsed by being observed, that Schrödinger thought of his hypothetical experiment. To common sense, the decay particle will shoot out either its poison or a nourishing meal whether or not it is being observed but Neils Bohr, who had been instrumental in formulating the Copenhagen Interpretation maintained that the common sense view is wrong. What we have, prior to observation, is a "superposition of states" or, in Schrödinger's words, "having in it the living and the dead cat mixed or smeared out in equal parts"(Gribbin,1995:21). The many possibilities into which a wave fans out are known as "virtual" transitions as against "real" transitions which describe the collapsed wave or distinct particle. Zohar draws an analogy with "a sheltered young woman at last presented to society at her 'coming out'" (Zohar, 1991:16). In the real world of classical physics the young woman would date different boys on separate occasions and thus gain confidence that, eventually she could make a judgement as to a husband with whom

marriage would seem a viable proposition. Her quantum counterpart, however, would take up with all suitors, all at once, perhaps even setting up house with each of them simultaneously. Indeed from within one house, she would be able to see herself in another. Eventually, she would experience real transition in settling down with just one of her suitors but this is not to say that her other liaisons (virtual transitions) have left no trace - there would have been offspring of, at least, some of the other relationships which would have grown up to influence the world. Zohar (1991:414) quotes David Bohm (1917-92) the theoretical physicist who had suggested that in nature:

in many ways the concept of virtual transition resembles the idea of evolution in biology, which states that all kinds of species can appear as a result of mutations, but that only certain species can survive indefinitely namely, those satisfying certain requirements for survival in a specific environment surrounding the species.

This so called "many worlds theory" suggests that all possibilities are viable for a time and that, indeed, although two viable transitions may both be vulnerable to annihilation, their progeny may be established as real transitions. Was the Copenhagen Interpretation right to suppose that conscious observation may well be among the things whose interference influences the collapse of a wave into a distinct particle? Certainly, it provides a series of formulae which physicists can use to predict the outcome of experiments even though they are unable to explain "why". If it is correct, as results would seem to indicate, then perhaps we have more to do with the construction of our own relative world than most of us usually think. Perhaps Plotinus' (205-270AD) intellectual attempts to unite the knower with the known in a system where ultimate reality is One can be better appreciated from the perspective of quantum physics than

from any other. Many experiments have been carried out which show a correlation between a pair of particles without regard for locality in either time or space, even across the universe (Zohar, 1991:20-1). This problem of non-locality was something that Einstein could not accept and he spent the rest of his life, some 30 years which he finally considered to have been wasted, looking for a “shared” principle (3). To make this less esoteric we, like Einstein, might take as example twins separated at birth and brought up one in America and the other in England. Although unaware, even, of each others existence over the years both become prosecuting barristers, answer to the same nickname, dress almost exclusively in the same shade of brown, and get married at the same age to brunettes named Barbara. For Einstein there had to be a common factor, perhaps some shared genetic material, which caused the twins to adopt the same lifestyle. However, as noted above, experiments with pairs of non-particles favour, in this instance, quantum theory against Einstein’s incredulity. Einstein expressed his wonder in “My Credo”, a speech to the German League of Human Rights in Berlin during the autumn of 1932 (Campbell, 1973:143):

The most beautiful emotion we can experience is the mystical. It is the power of all true art and science. He to whom this emotion is a stranger...is as good as dead. To know that what is impenetrable to us really exists, manifesting itself as the higher wisdom and the most radiant beauty, which our dull faculties can comprehend only in their most primitive forms - this knowledge, this feeling, is at the heart of true religiousness. In this sense, and in this sense only, I belong to the ranks of devoutly religious men.

It is noteworthy, in this regard, that Stephen Priest in his book *Theories of the Mind* in a chapter on Idealism, mentions John McTaggart Ellis McTaggart’s book *The Nature of*

Existence (1927) in which McTaggart argues that conscious spiritual selves are fundamental constituents of the Universe. As such we logically give the empirical world existence by our perception there being no matter and, as spiritual selves, we are immortal. Priest writes (1991:70):

Interestingly, McTaggart rejects the claim that God exists, so combining a doctrine of personal immortality with atheism. This perhaps illustrates my point that theism and belief in one's survival of death are logically independent.

Likewise Priest, in his final chapter, maintains that whatever has the capacity to think - be it God, a computer, or a soul - is a mind. In the case of humans and other higher animals, he states, "the mind is the brain" (p.214). In support of this argument he reasons that brain damage may affect the mind, as when it causes amnesia. By holding that thinking and consciousness are "activities" of the brain, Priest claims that the mind/body problem is solved since "there is no ontological problem about something and its activities, or about a thing and what it does" (p.214). For Priest, both materialists and idealists are wrong - the one for maintaining that mental events are physical, and the other for maintaining that material events are mental - this, however, does not mean that dualists are correct either, since Priest is of the opinion that their belief in an interface problem places them in the grip of a metaphysical illusion as absurd as Lewis Carroll's speculation in his *Alice in Wonderland* of a "grin without a cat". All this seems remarkably simple, our mental life is nothing but a product of our physical life; our brains have merely evolved to "transform" our environment and my question, above, about thoughts (as understood psychologically) below consciousness is undercut. Or is it? Even when we accept that the thoughts of the mind are emergent properties of brain activity - the process of some recursive loop - we still have not adequately described thought. Suppose

that what I call the psychology of thought is no more than the consequence of energy particle/waves and that consciousness, in Priest's terms, is no more or less the same - a consequence of physical activity - then how does my awareness (consciousness - the consequence of physical activity) become animated by thought, again a consequence of physical activity? Surely, it is consciousness which somehow turns the spotlight of attention onto the multi-input of our senses and cognitive function. It is the view of the neurologist, Damasio (1994:128), that our rationality, traditionally presumed to be neocortical, is biologically regulated by the emotions which emanate from the subcortex, or old brain, and I hypothesize that it is from the hypothalamus, at the very heart of the limbic system, that the torchlight of consciousness is lit and directed. It is the strength of our feelings about things that focuses our thoughts upon them while other things get pushed into the shadows and often go by unnoticed accept in a subliminal way(4). In an age in which the activities of the neocortex occupy so much of our attention, it is perhaps a timely reminder that neocortical activity is built upon subcortical structures. In the field of vision, for example, our amazement seems biased towards the wonders of neocortical processing but as Damasio (p.164) says, vision is not a process of the cerebral cortex alone but probably begins in the brain stem, in such structures as the colliculi. Such observation is, I believe, relevant to "blindsight"(see my Chapter Five - *Illusion and the Imagined Self*).

According to Colin McGinn (1980) consciousness characterises the mind. Both consciousness and the possession of the mind are all or nothing affairs. Consciousness is like turning on a light. None of this is inconsistent with both mind and consciousness being constructs of the brain but what I wish to emphasize here is what Hofstadter (1980) has called the "recursive" elements, the hypothesis that many of the activities of the brain, both conscious and unconscious, rely on feedback. Like our finger print or

DNA print, our brains are unique. Connections between billions of neurons and their supporting glia cells are made and broken faster than it takes to blink our eyes. The analogy has been made that it is like having made a detailed map of New York and then waking up the next day to find that all but the major roads have been changed - and remember, neurologically speaking, this is being done all the time and at fantastic speed. While much of what takes place is down to unconscious biological interaction and autonomic feedback, it is my conviction that our conscious thought also has an input and thus makes a free choice contribution to a system which is neither wholly free nor wholly determined. Probably most people will remember times when the more they have concentrated upon a task the less able they became; indeed, the term "trying too hard" is common usage. I, perhaps, experience this problem more than most people and, for this reason, maybe I've been driven by curiosity to ask "what is going on?" I've already mentioned my having cerebral palsy, commonly referred to as being "spastic". I believe this to have been the result of starvation of oxygen during the birth process causing damage to my central nervous system. It is likely that damage to the cerebellum, a part of the brain instrumental in seeing that we physically retain our balance, causes me extra problems in staying on my feet. But, also, the cerebellum uses feedback to refine the grosser movements instigated by the motor cortex and if mine is failing to do this as well as it should, then, I am more likely to make the kind of movements which will throw me off balance in the first place. As this statement shows, I am aware of the problem I have and I attempt, consciously, to correct my failing sense of balance as the need arises. The trouble, as I see it, is that because the autonomic nervous system, to which the cerebellum contributes, is so much quicker in its monitoring of events than is the case where things remain under conscious control, trying to correct a failing autonomic process is like trying to mesh a slow gear with a fast one. Occasionally, in my case, the attempt is successful and I manage to stay upright but, quite often, it is not and I fall

over. Sometimes it is a real battle, as when I almost regain my balance but lose it again before I can restore the equilibrium and establish a position from which my balance can cope. There is, also, the possibility that my free-flowing self-awareness becomes acutely self-conscious which, itself, interferes with whatever advantage could be derived from the unfailing part of my autonomic nervous system. Here, I would argue, is an instance where one's ability to stand outside one's own image of the Self is important. As Herrigel (1953) writes in *Zen in the Art of Archery*, the skill is not in the concentration of shooting an arrow but in correct breathing. The point is in avoiding the over-concentration which mars the shot by diverting attention and allowing the shot almost to take care of itself by adopting a *centred* Self (see my Chapter Three - *Human Nature and the Self*) approach in place of a Self centred dominance. Once a process has been learnt by the autonomic nervous system *trying too hard* merely gets in the way of a free-flowing movement, as my own unusual problem has helped me to realize.

What this reveals is the tension between what our bodily machine will do and what we - as disembodied wills - can make it do. And what that seems to reveal is that the binary opposition between body and will, the material and the immaterial, determinism and free-will, just is not an adequate characterisation of what is going on here. There are things our consciousness simply cannot will directly. To refer again to Herrigel's archery example, the Kyudo archer must, once the bow has been drawn and the arrow directed at the target, maintain complete immobility if tiny bodily movements are not to ruin the accuracy of the shot. This is quite impossible. Firstly, because complete immobility would mean that the string cannot be loosed and the shot made. But, secondly, because the more the archer concentrates on willing the muscles not to move under the strain of a fully drawn and powerful bow, the more the muscles will twitch and shake with effort. The body will do what it will do and the conscious mind cannot will it to do otherwise.

But the whole of Kyudo as a Zen discipline is to teach the archer not to will anything, not to try and direct the shot or control the muscles - in effect, to efface the conscious mind completely and be only a body, a bow and an arrow. And then the shot will make itself.

This suggests that what we cannot will directly, we can learn to will indirectly. The less we attempt to control what we can do, the more we are able to do (though this conveniently leaps over many years of practice, failures and patient teaching, at least in the case of Kyudo); the less we attempt to be a mind and a will and the more we are content simply to be our bodies, the more, paradoxically, we are able to control our bodies.

In acquiring a skill, such as driving a car or juggling, we are unconsciously programming our autonomic nervous system. Many of these skills are delicate operations calling for synchronization - confidence rather than anxiety, but this, of course, is something which is gradually built up as errors are removed and the system proves itself. Such detection of errors and the recursive feedback of information can be either autonomic, the sort of function that a thermostat performs in a central heating system, or under conscious control, as when a computer programmer intervenes to modify a program to cater for some initially unforeseen occurrence; the former is, of course, a more immediate response than the second is able to be. Hopefully, the effect of conscious intervention is beneficial but this is not always the case and, again, the gross amplification of my experience, resulting from my balance problem, is a frequent reminder that intervention can be more like throwing a spanner into the works rather than using one as a fine adjusting tool. There is a common experience in which when self awareness becomes self consciousness we all begin to make mistakes. Once educated by experience, the

autonomic nervous system will respond automatically like a well written computer programme and the so-called unnecessary fine tuning of an over anxious programmer has the potential for making things worse as well as for making them better. Maybe, such conscious interference (observation) affects the wave/particle flip over at the level of quantum physics. Perhaps, at this level, things are in an unpredictable, free flowing, wave form and it is at a higher level of conscious reasoning that intelligence/order manifests itself.

Quantum physicist, John Archibald Wheeler, thinks that human consciousness is the crucial missing link between the bizarre world of electrons and our everyday reality. It should be understood, of course, that there is a limit to the number of possibilities or virtual transitions into which a wave fans out. However, Wheeler demonstrated Heisenberg's Uncertainty Principle, formulated in 1927, which states that we have the option of either measuring the velocity of a wave or determining the position of a particle but not both together since our interference, e.g. observation, in performing one or the other in some way determines whether the wave-nature or the particle-nature of, say, a photon is exhibited. In his repeat of what is known as the "Young's" double-slit experiment, Wheeler released a photon in the direction of a screen with two slits in it and two particle detectors on the opposite side. This gave the photon the option of travelling through either one or both slits (remember that in quantum physics more than one possibility - virtual transition - may take place simultaneously). The result was that the photon behaved like a particle and went through just one slit. When, however, Wheeler placed a detector screen between the screen with the slits (Young's interferometer) and the detectors, the photon behaved like a wave, going through both slits, interfering with itself, and leaving an interference pattern on the detector screen. It seems reasonable to point out that, as this experiment shows, the consciousness which seems to contribute to

the particle/wave state is not just mediated through human awareness. That Wheeler believes in a participatory universe is demonstrated by his comment, quoted by Zohar (1991,29 from Wheeler, 1983:199) that:

Beyond particles, beyond fields of force, beyond geometry, beyond time and space themselves, is the ultimate constituent (of all there is), the still more ethereal act of observer-participancy.

The unique attribute of human consciousness causes us to be acutely aware of ourselves when we realize that we are the focus of someone's attention. Although we know that staring at someone is an intrusion of their private space we sometimes find it irresistible. Staring has this effect, according to Newman and Lonsdale (1996), because we use our eyes to initiate social interaction and for that reason they demand a response. Is this an observation which disrupts the free flow of self awareness and changes it into self-consciousness? It does seem that there is a connection but we are not consciously able to say what it is.

McGinn (1993) quotes Schopenhauer (1970) who believed that the intellect exists to serve the Will so that it is "a quite abnormal event if in some man intellect deserts its natural vocation...in order to occupy itself purely objectively. But it is precisely this which is the origin of art, poetry and philosophy, which are therefore not produced by an organ intended for the purpose"(p.127). Like Schopenhauer, McGinn believes that *reason* which gives us science, mathematics, art and philosophy is the by-product of a biological system which has evolved for survival purposes. Biologically, he thinks, we are educable in matters of feeding, fighting, fleeing and mating but the genes constructed human reason without so much as a thought to the philosophical powers of the species.

Although McGinn thinks that human reason is not suited to solving philosophical problems such as that of *consciousness*, self, free-will, a priori knowledge, etc., he holds that it could possibly be that some other epistemic/semantic system within us has already solved the problem but that we have no conscious access to its contents. This hypothesis he calls TN (Transcendental Naturalism). Stating that (p.137ff) mysteries are only mysteries to a given faculty, he asks whether any other of our faculties could be more gifted at philosophy than is conscious reasoning. He says that the way to act about answering this question is to ask whether some other faculty in us *needs* to have the kind of philosophical knowledge or information that reason finds so elusive. The two possible faculties he puts forward are the brain and the genes. It is tantalizingly tempting to go along with McGinn's argument but although he acknowledges that "the genes are clearly not miracle minds privy to transnatural information about our constitution" but that "they are brutally molecular compounds, and what they encode is strictly earthbound", there does seem to be an implied *intelligence* at work as though these other faculties, brain or genes, purposely set out to solve these paradoxes of philosophical intrigue. By suggesting that the brain's self-directed causal activity is *theory-driven*, McGinn risks falling into the trap, against which I warn in my Chapter Five - Illusion and the Imagined Self, of unwarrantedly introducing intentionality into the argument. As argued above, our development does not depend upon our brains but on the DNA blueprint held within any single human cell. This, however, does not mean that our genes, working as a pre-written and unalterable program that we inherit from our parents, are any better as candidates for possessing a worked-out theory of consciousness. If we are to accept the theory of evolution, then we must accept that those species (animal or vegetable) that are best able to propagate their genes will survive, whilst countless others do not - it is a process of random, rather than intentional, selection. It cannot be that either our genes

or our brains *needed to know* how to code for consciousness but that once having done so by accident this proved to be advantageous to gene survival and, therefore, flourished as unconscious beings would not. I do think that McGinn's argument that human reason is not capable of understanding consciousness has more than a grain of truth in it. Perhaps, if we could understand consciousness then we would not be the creatures we are. Nevertheless, as futile as the enterprise might seem to be I cannot see this stopping our endeavour, for this too is tied up with being the creatures we are! I am inclined to agree with Ward (1996) that evolution can only be understood from the belief that an intelligent Mind underpins the exacting laws which our sciences can only partially interpret. In this paradigm, mind is an absolute value against which to plot and explain other things but I do not claim it exclusively. Perhaps it is just a term to express a sea of nothingness along which the force of creation travels giving rise to emergent clustered masses just as the force of the sea gives rise to waves.

It is unlikely that McGinn's supposition that "consciousness is like turning on a light" would be supported by Susan Greenfield, the neuroscientist, who in her book *Journey to the Centers of the Mind* (1995) argues that the conscious self constantly changes from one group of neurons to the next as each group gains pre-eminence according to what most claims the focus of attention. For her a more plausible description of consciousness is that it is graded, like turning up a dimmer switch, and grew as the brain did in terms of both evolution and individual development(p.132). This view of *attention focus* is reminiscent of Aldous Huxley in his book *The Doors of Perception* (1954) in which he said that the brain acts as a *reducing valve* so that only those things we need to know for survival purposes become the focus of conscious attention. Imagine being aware of everything the brain is occupied in doing such as controlling heartbeat and temperature, breathing, regulating fluid balance and hunger and directing learned sequences of actions,

like driving a vehicle. Such a situation would produce overload and confusion and, to some extent, this is part of the disabling effect of schizophrenia where different focuses of attention overlap so that one line of thought cannot be sustained because it is constantly being side-tracked by extraneous and irrelevant associations (5).

Greenfield's argument is that consciousness is often retained even where brain injury has resulted in the loss of large populations of neurons(p.19). What correlates with consciousness are different sizes of neuron groupings that form assemblies of consciousness. Her hypothesis of varying clusters of neurons producing different conscious centres at any one time is a *spatial* concept whereas the unitary nature of subjective conscious experience could be essentially *temporal*. As she says, many different people can stand on the same spot, but only one person at a time(p.88). However, as the philosopher, Galen Strawson, points out "correlations are not explanations" - when we correlate sensory experiences with certain brain activation we get just that, correlations, and these are not explanations (Campbell, 1996). I think that here we are back with McGinn's scepticism - it does seem that our best descriptions of neurological patterning are unlikely to explain either consciousness or thought. Even our sense of Self is only partly open to scrutiny - that part that we are conscious of but, as we have seen, much of the input is not under our control.

Section Two

Transcendental View

Having reached this hiatus in my attempt to say what consciousness is I want to *use* consciousness to re-focus my attention on how consciousness can be used. This is like a driver of a car coming to terms with the fact that there are things going on under the

bonnet which s/he still does not understand but being determined, nevertheless, to improve their driving skills. As emphasized throughout this thesis, in one way or another, there are things for which we cannot give a full scientific account but whose use is undoubtedly beneficial, like a scientist frustrated at not understanding everything about quantum physics and yet knowing that his predictions using quantum calculations will give precise and accurate results. So, how should we *use* consciousness?

In the early 1950s Huxley, being interested in the profound changes in consciousness brought about by chemicals and knowing about the similarity, in chemical composition, between the drug, mescaline, derived from turnip-shaped cactus and known locally to North American Indians as “peyote”, and the naturally produced, adrenalin, took four-tenths of a gramme of mescaline, which he claimed had caused him to see “what Adam had seen on the first morning of his creation - the miracle, moment by moment, of naked existence” (1953:7). Such was the intensity of his awareness that he felt that objects were being thrust upon him insistent of his attention. One aim of the esoteric disciplines of eastern philosophies is to remove “blindness” or the “illusion”, to “awaken” a “fresh” perception. “Enlightenment” or “illumination” are words often used for progress, for a breakthrough in the level of awareness - flooding a dark spot with light. The Indian tradition speaks of opening a third eye, of seeing more from a new vantage point. For William Blake it was a “cleansing of the doors of perception so that everything would appear as it is, infinite”. One of the aims of concentrative meditation is the opening up, or deautonomisation, of awareness so that, as is said in Zen training, one sees something as one saw it the first time even though it may be the five-hundredth time of seeing it. This the Buddhists call “mindfulness”. We need to be able to break free of habits where repetition has dulled our awareness, as when one is used to driving a car where the direction indicator control is on the left of the steering column whilst the

wiper control is on the right, it is sometimes found that on then driving a car in which the controls are reversed the wipers are occasionally turned on in mistake for the indicator. The benefits of the autonomic nervous system need not rob us of the possibility of seeing things afresh when we really want too.

Changes in the chemistry of the body may have considerable effects upon the brain and , not least, upon consciousness. We automatically limit our perception - if we became aware of each quantum of energy reaching us we would probably be dead within a day; we tune out the constancies of the environment and discard many slow-changing and subtle phenomena. However, by reducing the amount of available sugar, as would be the result of fasting for example, the brain's biological efficiency is lowered which makes possible the entry into consciousness of material possessing no survival value. Yogic breathing exercises practised systematically, after a time, result in long suspension of breath that lead to high concentration of carbon dioxide (CO₂) in the lungs and blood which lowers the efficiency of the brain as a reducing valve and permits visionary or mystical experiences from "out there" to enter conscious awareness (Huxley, Appendix1, p.104). Huxley goes on to say that in earlier times dentistry was non-existent and there were no safe antiseptics. In these circumstances, most people had focal infections throughout their lives which [together with a poor diet] would affect the chemical balance of the brain and make them more susceptible to having visionary and mystical experiences. To an unbeliever this shows that such experiences are not genuine spiritual occurrences but this is, perhaps, to ignore the fact that *all* our experiences are chemically conditioned, and if we imagine that some of them are purely spiritual, intellectual, or aesthetic, this is simply because we have never troubled to investigate our internal chemical environment at the moment of their occurrence. Such a debunking argument is *non sequitur*; all that has been shown is that knowing the chemical condition of

transcendental experience there are various ways of bringing about such conditions. Similarly, we now associate experiences concerning a belief in an Ultimate Being with temporal lobe activity but this no more proves that such belief is not genuine than it proves that God communicates to the believer via his/her temporal lobe (see Chapter Six - *Spirituality and the Creative Self* - where I mention Augustine's notion that human instinct creates a desire to praise God).

The holistic concept of eastern philosophy invite a more lateral way of thinking in contrast with the linear concept of western philosophy which proceeds logically from step to step. Its like puzzling an anagram which is lineal by placing the letters in a holistic circle. The holistic character of quantum physics defies our attempts to explain it in the logical language of classical physics and yet the importance of both is undeniable as is the appreciation of both art and science which again defy a common bond. How can our logical reasoning be complemented by the creativity which relies upon a more holistic experience? Concentrative meditation is intended to alter ordinary, linear consciousness; it is a shift from the normal analytical world containing separate, discrete objects and persons to one of unity which is intuitively complementary to our more commonly recognized conscious dimension in which rational, sequential order is the recognized way to think. Meditation is an attempt to alter consciousness in such a way that other aspects of reality can become accessible to the practitioner, who then can add personal knowledge to intellectual.

The psychologist, Robert Ornstein, President of the Institute for the Study of Human Knowledge, says there are two modes of consciousness, which he depicts as "day" and "night". The "day" is the linear consciousness most familiar to western culture; "night" is holistic and receptive. He writes(1972:173-4):

In many writings, the traditional psychologists stress that thoughts, the “mind” in the restricted “left-hemisphere” sense, are the barrier to entering the other mode of consciousness. Patanjali, the author of *Yoga Sūtras*, defined his discipline: “Yoga is the inhibition of the modifications of the mind.” In Zen the intent is to “stop conceptualizing while remaining fully awake.” Our thoughts and expectations construct and maintain our personal consciousness as it is. To alter the construction, say the esoteric psychologists, ordinary thoughts must be placed in abeyance for a while. Thus a function of concentrative meditation is to “turn off” the active verbal mode, and especially, to avoid thinking. Some monks even take “vows” of silence, to restrict the province of the verbal-intellectual mode. Certain highly developed and seemingly bizarre exercises are performed to rid the practitioner of a strict reliance on verbal intellectuality. These often involve *questions* which can have no possible verbal-rational solution: the koan exercise of the Zen tradition is one example.

Our sense organs, by their very physiological design, detect only a small fraction of the available energy, and of the energy to which we are sensitive, it is primarily *changes* in the input that are transmitted to the brain. Any process beyond the “ordinary” sense range, as well as any constant process within our normal sense range, usually escapes our consciousness. This, in the first instance, was probably for survival purposes and agrees with what scientific research of contemporary psychology tells us about the brain controlling input, building models, and responding automatically to the external environment. Eastern, esoteric, psychology refers to this as man lacking full awareness of his surroundings and sees it as a barrier to development. The practise of meditation is seen as an attempt to turn off linear, verbal activity (predominantly a process of the

brain's left hemisphere) temporarily and to allow the more receptive and holistic (right) side to dominate. Following this, we bring "fresh" resources to sensory input and see it as from a new perspective - it is a way of jumping out of well-worn grooves in our thinking pattern. Every stimulus is to enter consciousness devoid of normal input selection, model-building, and automatic categorizing. In T(ranscendental) M(editation), "cosmic consciousness" is a state of objective awareness which is reflected as by a mirror, instead of being filtered through an intellect grown dull by repetition. By withdrawing from the light, as in meditation, or by chemically intensifying perception, one becomes aware of what has previously been hidden, as when stars are unseen during daylight. Ornstein (p.207) illustrates this by recounting an ancient eastern story that tells of a teacher who is searching the floor. When his student arrives he asks what his teacher is doing and is told that he is looking for a key. The student joins in the search but, after some period of unsuccessful looking, he asks his teacher where exactly he had lost the key. His teacher says that he had lost the key in his house. "So," asks the student, "why are you looking here?" "Because," replies his teacher, "there is more light out here than in my house." We are so accustomed to looking for the key to reality outside of ourselves that we are in danger of even denying the existence of inner reality. Often we forget that the light of daytime, to which we are so acclimatized, prevents us from contemplating the stars that, with a little practice, are clearly visible at night. I believe it to be an urgent need of our times to rediscover our inner conscious reality. As Schopenhauer saw it, we can know the outer world only by reference to our inner world.

Whilst our development as conscious individuals has proved useful for biological survival when we were threatened by predators, much of the adrenalin which now flood our alerted systems is unused in our sedentary occupations and our aggressive behaviour needs careful management by way of physical exercise and an understanding of our

evolved condition (6). Many of the threats that we now face are societal and global. This is a time when we need, more than ever, to reassess the human condition to see the threat from pollution, under-development, war, etc. which we face and to come to terms with our need for a holistic approach alongside the more linear approach which has been our western way for so long but which is less and less able to provide the solutions that are now required. Technology by itself can be lethal as well as good. Today, the weakest link in the chain of progress is man's own behaviour for that is what governs which side of technology, that is, good or bad, will be deployed. For man to control his destiny he must control himself, not only as an individual, but as an individual who is part of a greater unity. It is now more essential than ever that we recognize that our imagining of the Self needs liberating from the tyranny of the ego so as to be realized in what I call the "centred" Self.

In our efforts to demystify the world and limit what we call reality to the result, we unnecessarily limit our horizons and lose the freshness and wonder we had as children when analyses was less of an issue. By using the left side of our brain in preference to, if not to the exclusion of, the right side we have become unbalanced in favour a linear approach to the philosophy of consciousness. In this way what we perceive has all the mathematical exactness of a body described by science but lacks the breath to make it alive. If we were to explain to a people, not accustomed to the power of technology, that there existed high-frequency electromagnetic radiation waves in the air which carried information, music, and entertainment of all kinds they would find it hard to believe. After all, they would not be able to perceive any such thing unless they had a television receiver. Likewise, our unaided senses remain ignorant of so much. As we develop during childhood we learn to conceptualize and categorize input from our environment so that, gradually, we become consciously aware only of what is familiar: we hear our

own name at lower volume than other words and become aware of it being mentioned among the general cacophony of sound which we would otherwise filter out; we recognize an English word more quickly than a random sequence of letters; and, we see a red ten of diamonds much quicker than we would see a red ten of clubs. Meditation, mantras, mandalas, koans, parables, and the repeated mythical story are all ways of avoiding the groves worn by our autonomous, if not lazy, way of thinking so that we do perceive the unfamiliar and recognize the familiar as we did when we first perceived it.

Section Three

Emergent Integration

Since it is my intention, stated in my introductory chapter, to look at the neurology behind the personality of the Self where some impairment is present in the brain, I want to conclude this chapter on Consciousness and the Self by considering the plight of those who suffer from a serious neurological dysfunction - the syndrome known as Seasonal Affective Disorder. This is a worrying winter disorder which is caused by sun and daylight starvation rather than the cold weather. In the past "winter blues", with their mood changes and low energy levels, have been blamed on the effects of the cold and being cooped up inside for a long period of time but, more recently (c.1980), it has been found that lack of daylight is the cause of the problem affecting around half a million people in Britain alone. Clearly, the impairment we are looking at here is chemically based. Depression and a lack of incentive to do anything is caused by the pineal gland over-producing the morphenous hormone, melatonin. This gland, lying deep within the skull, develops from the forebrain. Descartes thought of it as "the seat of the soul", there being just one soul and one pineal gland, but it is now better known, as it is in Hinduism,

by the phrase “the third eye” because, being thought to be sensitive to light, it keeps the body informed about changes in day length.

When photons of light pass through the eye they produce signals in the optic nerve that are sent, not only to visual centres of the occipital lobe at the rear of the brain, but to the hypothalamus which controls our biological clock(s) or circadian rhythms (biorhythms). Signals are then sent, via the spinal cord to the pineal gland, which moderates its output of melatonin - light is the signal for ceasing to produce the hormone whilst darkness is the signal to make it. Anyone who has wrestled with the attempt to stay awake when tiredness is trying to get a hold will know what an unequal task this can be. Not only does it appear that our consciousness is mediated by light-produced chemical action but melatonin also triggers a host of other activities which operate under the influence of a network of biological timekeepers. Along with sleep, these include hunger, sexual desire, moods, temperature, alertness and thinking. The bodies biological time-pieces are synchronized in such a way as to force heartbeat, blood-pressure, temperature and sleep to be regulated together in daily cycles. The female menstrual cycle is another example of a regulated biological occurrence. Hormones prepare a lining in the womb ready for pregnancy but if the egg is not fertilized this lining is shed and a period ensues.

Light is the key to the rhythm of life. For thousands of years we have incorporated rhythms of light and dark, day and night, into our bodies. Toads, mice and squirrels go into a state of shallow hibernation as autumn brings shorter, colder days. Birds migrate. Insect-eating species such as warblers, flycatchers and wagstaffs fly thousands of miles to tropical Africa in search of food and warmth. Research has shown (Guardian Education, 5thOct.,1993) that removing the pineal “light-dark” regulator puts animals out of

synchrony with nature. In this condition they might mate at a time when food is in short supply or when it is too cold for their offspring.

My argument that consciousness is a subcortical phenomenon emanating from the hypothalamus which is stimulated by particle elements, themselves involved in the structures of chemicals, is thus supported. Also, as part of the limbic system, it would seem that our levels of consciousness and focus of attention are altered by the way we feel - our emotional response. In this way we generate our own personal consciousness, concentrating on those things that mean a lot to us and are, therefore, uppermost in our minds, whilst screening out things of less significance. As architects of our own personal consciousness, and with the aid of the process of individuation, we may shift our attention away from an ego-driven consciousness, where we are too attached to the wheel of desire, suffering, satisfaction and boredom leading back to desire. One of the reasons why nonattachment to *worldly* pleasures is a major part of meditative discipline is that extended consciousness is an attempt at a total present-centredness where sensual pleasures are accepted as they come but have not the clinging hold over us of something we must have. Normal consciousness, on the other hand, is constructed in the mind-set of past experiences and urged on by our expectations and needs. Ornstein(p.178) says:

In its effect on awareness, the practice of nonattachment can be considered an additional way to remove the normal restrictions on input. If there are no desires, there is less bias at any one moment toward specific "tuning" of perception. Our awareness of the external environment becomes less restricted, less an interaction, less a function of our desires at the moment, more like a mirror.

Merely abstaining while still desiring is useless. The obstacle to our development is not in partaking of something but being attached to it in an addictive way. St. Paul said that he had learned to be content with whatever state he found himself to be in (Phil 4:11). Jesus emphasized the need to be in the world but not of it (Jn 17:16), also that we should have the mind of a child (Matt.18:3). This involves a process of dehabituation and deautonomization. As we develop we build models of the environment against which we test and select future input. Such models, partly based on our culture and upbringing are limiting, are limiting in that they cause us to be creatures of habit, automatically checking new situations against them instead of looking with the flexible mind which we possessed during childhood. Concentrative meditation, such as TM (Transcendental Meditation), cuts down the input of which we allow ourselves to be conscious (a mantra in the case of TM) with the intention of dismantling the automaticity and selectivity of ordinary awareness. The Sufis characterise ordinary consciousness as a state of “deep sleep” or “blindness” - an over concern with the irrelevant dimensions of the world. George Gurdjieff, who was trained by dervishes, says that man places shock absorbers between himself and the world (Ornstein, p149), “We must destroy our buffers; children have none; therefore we must become like little children.” This is reminiscent of the teaching of Jesus, quoted above, as well as being part of other eastern wisdom already referred to. In Indian thought ordinary consciousness is compared to a “drunken monkey” living solely in his own constructs-the world of illusion. The metaphorical meaning of the “fall” in Judaic/Christian tradition has the same implication, whilst in Buddhism, consciousness of Self is like Jung’s individuated Self - ego, as non-existent, being just a concession to current terminology.

Whatever they are, wherever they come from, consciousness and the Selves we create, are more than the sum of their mediating neurological parts. We should not allow our

lack of complete understanding to stand in the way of the partial enlightenment which their employment offers us. For a balanced view, we need both the more scientific or neurological aspect of the left brain hemisphere and the aesthetic or transcendental aspect of the right hemisphere. Just as science and art seem to run on parallel lines that never meet but are nevertheless both of value for our survival so, I believe, are both the neurological and the transcendental view of consciousness and Selves. Here, indeed, our concept of binary opposition must allow us to bring these two seeming separate strands together so that, as with DNA, we may see them in their complementary whole (7).

In this chapter I have looked at the neurobiological input which goes into the creation of the Self and the contribution made by both our conscious and unconscious processes. By demonstrating the way in which we are in the grip of evolved biological programming I have argued that our present environment can be coped with far better when we consciously act to turn our imagined Self into a *centred* Self.

Chapter Three

Human Nature and the Self

“Whereas for Kant the thing-in-itself was unknowable, impenetrable to speculative reason, for Schopenhauer it is knowable, it is Will, the principle which explains not only individual human nature, but the whole world”. Thus Copleston (1946:75) succinctly pinpoints one of the main differences between Kant (1724-1804) and Schopenhauer (1788-1860), and in doing so, isolates what is for me a more Western philosophically individualistic view of the Self from the rather psychological and holistic approach of Eastern philosophy. Schopenhauer, Copleston tells us, would retire in the evening to consider texts from the Indian Upanishads. Although the Upanishads represent for the Hindu approximately what the New Testament represents for Christians it is evident that whatever temporary consolation he may have gained in the late evening was always undermined by his long-term search for philosophical truth. Monk (1990:18) tells us that while Schopenhauer accepted man’s need for metaphysics, he insisted that it is neither necessary nor possible for an intelligent honest person to believe in the literal truth of religious doctrine and, to expect him to do so, says Schopenhauer, would be like asking a giant to put on the shoes of a dwarf. Although Schopenhauer was atheistic in his approach to westernized religion, whose hypocrisy he despised, his own inner quest for peace made him a philosopher who, more than most, had things to say about religion. The psychoanalyst, Anthony Storr, believes (1988:124) that the borders of our understanding, which are between our subjective world and the objective world, are being pushed by our desire to “know” and is the same force that fuels our longing for inner unity and integration.

In this chapter I want to continue to pursue the trail of our phenomenal neurology, which in the last chapter led to the transcendent noumenal, and research ways in which one may lead to the other. In this endeavour I will draw extensively upon Schopenhauer's recorded experiences.

Schopenhauer's identification of the *Ding-an-sich*, or thing-in-itself, with the Will was an attempt to go beyond the veil of Maya which oriental thinkers, especially Buddhists and Hindus, believe separates the phenomenal and noumenal worlds. The business of the philosopher is not, for Schopenhauer, to be concerned with phenomena that constantly change but to be aware of an underlying noumenon, the Will which expresses itself in such phenomenal changes; even the individual is the product of the one Will and individuality is a delusion caused by the conflict of microcosmic individuals at the phenomenal level without regard to the macrocosmic unity at a deeper level. Schopenhauer's use of Plato's (eternal) Ideas, or unchangeable forms, is akin to the Gestalt theory of later psychology when for example, we recognize, say, a chair, regardless of the diversity of individual chairs, by size, shape, and colour. Here, the category of chair takes on a form which is recognized in all individual chairs. Towards the end of book two of the first volume of his *The World as Will and Representation*, Schopenhauer (1966:vol1, 162) expresses the hope that he has:

succeeded in conveying to the reader the clear certainty that this world in which we live and have our being is, by its whole nature, through and through *Will* and at the same time through and through *representation*. Everyone finds himself to be this Will, in which the inner nature of the world consists, and he also finds himself to be the knowing subject, whose representation is the whole world; and this world has an existence only in reference to the knowing subject's consciousness as its necessary

supporter. Thus everyone in this twofold regard is the whole world itself, the microcosm; he finds its two sides whole and complete within himself. And what he thus recognizes as his own inner being also exhausts the inner being of the whole world, of the macrocosm. Thus the whole world like man himself, is through and through Will and through and through representation, and beyond this there is nothing. So here we see the philosophy of Thales, concerned with the macrocosm, and that of Socrates, concerned with the microcosm, coincide, since the object of both proves to be the same.

I believe that one of the aims of philosophy today should be to search for a more unified view of the world. In our scientific, post-modern, pluralist societies it is no longer possible to maintain a single paradigm as an absolute against which all others are simply wrong. The advance of quantum physics has shown us that thinking in terms of objects, boundaries, concepts and categories is insufficient if we are to research the inner depths of nature. Categories, for example, no longer exist in the absence of context, as we have seen in the illustration of Schrödinger's Cat (see Chapter Two - *Consciousness and the Self*). Rather, we need to be able to relate to a web of relationships which take into account the importance of the flowing process of balance and harmony. Schopenhauer's foray into Hindu or Buddhist writings may have been a combination of both relaxation from a day spent with the logical demands of Western philosophy and his hounding quest for something to make sense of the world and his existence in it. Whatever it was, Schopenhauer had the intuition that we have no notion of the world outside apart from interpretation provided by our inner processes. Today, we identify these as being produced by our neurological functioning. Perhaps it might be not too bizarre to suggest that our brains behave like

virtual reality machines (Deutsch, 1997:98-122). Schopenhauer was certainly of the opinion that science, the sufficient reason of the phenomenal world, was not going to provide answers to all the questions he wished to ask about the Nature of the World and the Nature of Man. Through empirical observation, intelligent analysis and conceptualization, science can both describe the material world and point to conflict within the individual ego which would jeopardize the safety of others so as to preserve itself but it cannot fill the gaps between what we know and how we should behave. As Schopenhauer wrote of man (1966:vol1, 332) "...he is ready to annihilate the world, in order to maintain his own self, that drop in the ocean, a little longer." After science has advanced our knowledge the decision as to its good or evil use rests, outside science, upon human nature. It is in passing through the veil of Maya (*principium individuationis*) that, according to Schopenhauer's metaphysics and in line with Eastern thought, we realize the Oneness of the Will which is manifested in its objectification in numerous individuals. This is the process of individuation which, in Schopenhauer's theory, enables the participant the more to abstain from that egoistic self-assertion that injures others. Thus, the ethics of unselfishness can be sustained more easily when we recognize the unity of Oneness - that what we do affects the All of which we are a part.

Chopra makes the same point (1993:259-260) when he tells his readers to:

Understand that the physical world is just a mirror of a deeper intelligence. Intelligence is the invisible organizer of all matter and energy, and since a portion of this intelligence resides in you, you share the organizing power of the cosmos. Because you are inseparably linked to everything, you cannot afford to foul the planet's air and water. But at a deeper level, you cannot afford to live with a toxic

mind, because every thought makes an impression on the whole field of intelligence.

Living in balance and purity is the highest good for you and the Earth.

It is in transcending the veil of Maya, going beyond the individual phenomenon of our person, that we accept the Oneness of the Will. This is the basis of Schopenhauer's morality, the argument is that the good or bad we do to others affects the whole of which we are a part. In this scheme of things, we become better or worse off according to what is done to the infrastructure, seen or unseen, on which we depend. Love is that which sees through the *principium individuationis* and this is why Schopenhauer (1966:vol1, 374) writes, "All love (*agape, caritas*) is compassion or sympathy". This undercuts the deontological principle of Kant, whom Schopenhauer may have excused on account of the former's age when penning his theory, as he appears to have done on another occasion, "I can explain this only by Kant's feebleness through age" (1966:vol1, 336). Kant's recognition of true goodness and all virtue only when they are based upon the concept of duty and the categorical imperative, together with the implied view that felt sympathy is a sign of weakness, appears over-clinical given that we are motivated, often in the first instance and more quickly by feelings than by reason (1). It is the way we *feel* that informs our *reason*. In order to get a stronger purchase on Schopenhauer's thinking we must bear in mind his view that suffering is essential to, and inseparable from, life as a whole; that "desire springs from a need, a want, a suffering, and that every satisfaction is therefore only a pain removed, not a positive happiness brought" (1966:vol1, 375). It is, therefore, a recognition in others which identifies with our own that moves our emotions to act in goodness, affection, and magnanimously to alleviate such suffering. Consequently it follows that "pure affection" (*agape, caritas*) is sympathy or compassion, this being mixed with and, sometimes, overriding

our selfishness, expressed as *eros* and seen as the Will-to-live in all its evolved phenomenal manifestations. One has only to look at the acrimonious proceedings in our divorce courts to realise that so called *romantic* love is an insufficient bond between two people.

The argument is that, although we may think of ourselves as discrete and independent individuals, this hugely downplays the extent to which we are dependent parts of a larger whole. From that perspective, what might have seemed like self-interest turns out to be folly and altruism turns out to be nothing less than prudence. Though from the perspective advocated by Schopenhauer and Chopra, the distinction between self-interest and altruism may be meaningless in any case. This, apparently metaphysical, perspective is supported by modern science, in so far as cosmic unity is the same as the enormously complex interconnectedness of things increasingly revealed by physics, mathematics and biology, together with the current research into neurobiology.

Such a view that things are so intimately connected is of interest in the light of the revelations of modern physics where, at its quantum end, we see a world so ordered and instantly communicable that, in comparison with the larger scale of classical physics, a butterfly flapping its wings on the other side of the globe would have consequences of earth-shattering proportions on this side. The principle of non-locality, which claims that something can be affected in the absence of a local cause, was first demonstrated by Einstein who showed that the equations of quantum theory predicted the necessity of instantaneous non-locality. Einstein himself was never happy with this and, indeed, the concept that one body can influence another without reference to the phenomena of space and time remains one of the greatest conceptual challenges raised by quantum theory since

we live in a world whose acceptance of relativity theory, in which no cause, e.g. a signal, can travel from one bit of reality to affect any other bit faster than the speed of light, dulls our capacity to jump to a different way of thinking. However, such synchronous behaviour suggested above is, as the physicist Danah Zohar (1991: 21) writes:

the basis of all quantum mechanical relationships, lending a very modern note of support to the pre-Socratic Greek notion of the “oneness of Being”.

Deepak Chopra, (above, p.227), writes, “Our bodies are intelligent everywhere. Brain chemicals aren’t secreted just from our heads; our skin, stomachs, intestines, and heart produce them. White blood cells floating through the immune system are outfitted with the same receptors for neurotransmitters - they form a kind of floating brain. The skin secretes more endocrine hormones than does the endocrine system itself.” Chopra has already demonstrated this intelligence of the body (pp135-8) which is shown both at the level of thought and the level where molecules are produced to carry messages around the body. The merging of the two seems to take place at the quantum level, where abstract and concrete are less differentiated. That the mouth watering experience, in which salivary glands under the tongue start secreting two digestive enzymes, can be caused by the expectation/thought of a desired dish as well as its actual presence, was established early in the 1900s by Pavlov (1849-1936). Chopra points out that “words and images function just as well as “real” molecules to trigger the ongoing process of life.” He goes on to say that:

Nothing in nature is more miraculous than this transformation. Turning lead into gold is trivial by comparison, for lead and gold are just minor reshufflings of a few protons, neutrons, and electrons. If you hear the words “*I love you*” and your heart starts to pound, a much more astonishing metamorphosis has taken place. An

emotion in another person's mind has been transformed into molecules of adrenalin rushing through your bloodstream. These, in turn, activate receptors situated on the outside of your heart cells, which in turn tell each cell that the appropriate response to love is to twitch faster than normal. More important, the body feels transformed- knowing that you are loved, you feel a sense of lightness and joy, the world appears more vivid, and everyday problems seem to vanish.

The research work of Clive Backster, the polygraph expert, whom Chopra quotes, also demonstrates an amazing quantum connectedness. The purpose of the polygraph or lie detector, is to determine the tense or relaxed state of the person being tested. It works by measuring the small changes in the skin's galvanic response which is the ability to conduct electricity. Not only can lies be detected by this method but the same differences are caused when threat or arousal are present. Backster found that the electrical discharge from cells, scraped from the inside of someone's mouth and connected to a polygraph, remained even and flat while their owner was sitting still but spiked wildly when s/he was roused by looking at erotic pictures - this occurred even when the cells and their owner were seven miles apart. It is apparent that there is much more happening beyond the range of our senses than science can explain. Interestingly, *The Amplified New Testament* (1968:583) explains "faith" as "perceiving as real fact what is not revealed to the senses".

A second point worth recovering from Schopenhauer is his theory of the mind and, especially, his prefiguring of the concept of repression and the unconscious later to emerge in the writings of Freud and Jung which I shall mention later in this chapter. He arrived at this by what, to us, may seem a strange route. Also of note is that the young Schopenhauer,

aged 15 years, visiting England for the first time between 24th May and 8th November 1803 with his parents, following a visit to Westminster Abbey on Tuesday 14th June mused in his diary as to whether the poets, heroes, and kings coming from different centuries, whose monuments he had seen within the Gothic walls, “themselves are now together somewhere where neither centuries, nor social barriers, nor space, nor time, separate them any longer” (Bridgwater, 1988:106).

Schopenhauer’s already questing mind, which had been stimulated by a liberal education between 1799 and 1803 at the academy of Dr Johann Heinrich Christian Runge in Hamburg, rebelled against the “absurd and revolting superstitions” exemplified for him in the joyless, dreary religious atmosphere at the Wimbledon school of the Reverend Thomas Lancaster where his parents left him between 30th June and 20th September 1803. So great was the adverse impression made on him at that time that for the rest of his life he was always ready to use his excellent command of the English language, much improved by Lancaster’s tuition, to expose cant and hypocrisy. One commentator (Bridgwater, 1988:370, quoting Suttan, 1974:79) goes so far as to write that Schopenhauer’s work can:

most simply be viewed as the attempt to transport to Europe the philosophy of the Upanishads and of Theravadin Buddhism, and present this as the natural consequence of the true interpretation of the philosophy of Kant.

It is, perhaps, confusing to refer to Schopenhauer as the philosopher who, more than any other, has most to say about religion whilst, at the same time, portraying him as an atheist. It is as though the word “religion” is a suitcase-word; its derivation, like that of the word “yoga”, means whatever binds everything together. Religion is our view of life and cannot

be excluded from our thinking just as we cannot pack a suitcase and leave out the case - it is the frame around our thinking, our general view of existence that colours the way we see the world, and everything we say and do (Morris, 1992:35). Schopenhauer both acknowledged man's need for diversion - circuses as well as bread - and warned that man has no saviour but himself (Schopenhauer, 1966: vol1, 313 & 323). He believed that Western religions would never take root in the East; that the ancient wisdom of the human race would not be supplanted by the events in Galilee; that, on the contrary, Indian wisdom would flow back into Europe, and would produce a universal change in our knowledge and thought (1966:vol1, 357). But, even in the final chapter of the first volume of his *The World as Will and Representation*, he does not sacrifice, what he sees as philosophical truth, for the sake of gaining consolation; he writes of death (1966:vol1, 411-2):

We must not even evade it, as Indians do, by myths and meaningless words, such as reabsorption in Brahman, or the Nirvana of the Buddhists.

Here again we have the picture of a giant realizing the impossibility of stepping into the shoes of a dwarf no matter how much he thinks it might feel good to do so once in a while - the myth of the Garden of Eden was right in this respect, once you have bitten into the fruit of the tree of knowledge there is no going back regardless of how attractive it may seem to be. So penetrating has been the insight of Schopenhauer into the nature of existence that we can see his influence in later writers such as novelists like Tolstoy, Hardy, Conrad, Proust, and Thomas Mann and, particularly, do we find that many of the ideas attributed to the psychoanalysts, Freud and Jung, are prefigured in Schopenhauer. The core of Freudianism is the idea of the unconscious and our repression of things that we would rather not face up to. Perhaps the next most important area of Freudianism is in its

recognition of the all-pervasiveness of sexual motivation. Both these concepts had been seminal ideas in the work of Schopenhauer but Freud (2) himself, whilst acknowledging Schopenhauer's writing about unconsciousness and repression, insisted that he had arrived at his conclusions independently. Magee (1983:263) tells us that Schopenhauer had shown more insight than anyone else into the role of the unconscious at a time when educated people were beginning to encounter that concept for the first time.

For Schopenhauer, it is the drives of the Will which are the evolutionary force behind everything, especially, the Will-to-live demonstrated in the sex drive. Thus, it is the metaphysical (or noumenal) Will that is responsible for the creation of the physical intellect which is dependent upon the phenomenon of the brain. The Will is the root, origin, and controller of the intellect; it's the means by which it seeks to know itself. In this way the intellect becomes the knower of the Will which, although known, is unknowing. Nevertheless, Schopenhauer acknowledges that he has only modified Kant's theory rather than replaced it in that observation of the Will, the thing-in-itself, is not an immediate occurrence but is mediated through the provision of an intellect (1966:vol2, 196). The consciousness of an "I" involves the flowing together of the knowing but unknowable intellect with the known but unknowing Will. In this respect the "I" still remains a riddle to itself since it cannot be said to be completely intimate with itself. Schopenhauer is in agreement with Hume that the "Self" is a bundle of perceptions occurring in quick succession, "the mind," writes Hume, "being a kind of theatre in which they make their 'appearances'" (Hume, 1962:302). Nevertheless, the apprehension in which we know the stirrings and acts of our own Will is far more immediate than any other, this being the point at which the thing-in-itself enters the phenomenon. Such inner knowledge avoids the forms

of space and causality which are necessary to bring about all sense perception but is unable to do without the form of time in which one act follows another. It is, therefore, a partial rather than a complete removal of the veil (of Maya) between the noumenal, absolute Oneness, and the phenomenal, transitory, multiple manifestations.

Both Plato and Freud put forward the theory that the mind has three parts which generally equate to 1. reason, 2. activity, energy, liveliness, and 3. the (lower) appetites. There have been several versions of this tripartite mind, the most famous being Freud's id, ego, and superego. Here the passions are represented by the id and gradually come under the supervision of the ego which in turn, is tutored by the superego. A helpful frame of reference is one that informs us that the id is the child of our personality, the ego is the adult, whilst the superego is the parent, or, as we are told of one psychologist's portrayal, the ego is the referee between a sexed-crazed monkey, the id, and a disapproving maiden-aunt, the superego (Zohar, 1993:66). All this seems to present human beings as explosions waiting to happen on a battlefield of the divided psyche. Indeed, in his later work, Freud thought the id's coercive "push" force of aggression, together with the seductive "pull" force of sexual attraction, both of which he had thought were sublimated by the ego's power of reason would cause an unavoidable crisis in society - if the id is repressed by the conscious ego then neurosis ensues, whereas, if free expression is allowed to the id then civilization will be destroyed. Plato writes (Republic, 1955:392) of man being tyrannized by uncontrolled drives/passions which especially invade his sleep with thoughts of unnatural sexual intercourse. This was the basis from which Freud developed his theory of the Oedipus complex. It was because the psyche can be an area of such conflict that, I believe, Jung encouraged his patients to follow a path of self-development towards wholeness or

integration which he called "the process of individuation" about which he wrote (Storr, 1988:192-5):

If the unconscious can be recognized as a co-ordinating factor along with consciousness, and if we can live in such a way that conscious and unconscious demands are taken into account as far as possible then the centre of gravity of the total personality shifts its position. It is then no longer in the ego, which is merely the centre of consciousness, but in the hypothetical point between the conscious and the unconscious. This new centre might be called the Self.

Following Schopenhauer, we can say that the "I" occurs at the point where the Will, *ding-an-sich*, emerges as self-conscious phenomenon. It is here that we experience the world as Will, here that we become embroiled in the endless cycle of desire, suffering, satisfaction and boredom leading back to desire again. And, for the most part, here we stay with our consciousness filled by our Will (Schopenhauer, 1966:vol1,195-200). The Will orientates the subject towards the world in terms of wishes, desires, needs, fears, anxieties, pleasures and so on. Every thing is, therefore, seen instrumentally, that is, in relation to the subject and the state of the subject at specific times rather than as it is in itself. The Self is skewed by this partiality and dominated by its appetites and not, therefore either centred or balanced, but self-centred instead of being centred on reality. Neither is this self-centred Self genuinely our Self, for it is created by transient and unconsidered drives, needs and anxieties rather than our true nature.

It is only momentarily that we escape from the thralldom of the Will and see the world as representation alone, free from the motives of the Will. Here Schopenhauer tells us, "we

celebrate the sabbath of the penal servitude to willing; peace comes to us of its own accord and all is well with us...a painless state prized by Epicurus as the highest good and as the state of the gods". Jung's process of individuation seeks to bring together the contributing factors of man's personality into an integrated whole. It is important that the whole of our resources are not given over wholesale to the Will, which would be to remain a child, but that we advance to become balanced personalities. (The elasticity, receptivity and wonder of a childlike mind need not atrophy in the presence of mature judgement.) This, I have chosen to refer to as becoming more a *centred* Self and less self centred.

When we look closely, it seems that Jung's Self has moved on from Schopenhauer's "I" but, again, this same shift is prefigured in Schopenhauer's work in which he went to great lengths to explain, what he saw as, the Platonic Ideas that are beyond the senses. It is these ideas which the artist momentarily glimpses and tries to express to our grosser perceptions that both Schopenhauer and Jung, concurring with Eastern philosophical wisdom, saw as being beyond the veil of Maya. This affords a limitation to our normal, everyday awareness on account of our conscious preoccupation with willing. It is only on the all too rare occasions when an external cause or inward disposition suddenly raises us out of the endless stream of willing that we contemplate knowledge in its unified form - the species of the Idea behind the individual phenomena. This is the state not only prized by Epicurus and the Himalayan sage but by Schopenhauer and Jung of which Schopenhauer wrote (1966:vol1, 198):

...all difference of individuality disappears so completely that it is all the same whether the perceiving eye belongs to a mighty monarch or to a stricken beggar; for beyond that boundary neither happiness nor misery is taken with us.

It is in this state of bliss consciousness, total awareness, that the sage seeks to remain while, at the same time, continuing to act in the field of relative existence. It is of no consequence whether he lives in an Himalayan cave or in the comfort of Schopenhauer's dwellings for as the ancient wisdom of the Bhagavad Gita (1962:53) says:

He whose mind is untroubled by sorrows, and for pleasures he has no longings, beyond passion, and fear and anger, he is the sage of unwavering mind.

Such a stable intellect gives a feeling of well-being which goes beyond psychological theories that have tended to focus particularly on negative effects because of the association with medical concepts of disease. Just as Schopenhauer tells us, either an external cause or inward disposition can suddenly raise us out of the endless stream of willing so, more recently, the psychotherapist Dr Robin Skynner, tells us that the sources of well-being can be divided into those that come from outside us and those that have their source within. On the external front, not only might we benefit from the contact with nature provided by a day in the country or a visit to some work of art but we can arrange other treats like going to a restaurant or theatre or having a hairdo. In this respect, although money cannot buy happiness it can provide a certain amount of security and comfortable surroundings where positive experiences are more easily found or created. However, says Skinner, among a number of wealthy people, that he saw in his psychotherapeutic practice, happiness was strikingly hard to find. When it comes to inner sources we are told that it is the love one feels for others, rather than the enjoyment of being loved, which most enhances one's well-being(3).

It is instructive to re-read Schopenhauer in the light of much current debate, not only in philosophy but, between all those with a keen interest in the development of society. Like him, we must be aware that science alone cannot supply answers to all the questions we have nor, indeed, will it give us immediate solutions to some of our more intractable problems involving the way we behave to each other. Even among the clergy of the Church of England there are those who realise that a dogmatic approach to some supposed absolute truth will do no longer. Such radicals, as they are called, are trying to come to terms with a situation in which they have lost out to the more sceptical approach of philosophy, science and art. As one of them, Anthony Freeman, says, "There is nothing 'out there' - or, if there is we can have no knowledge of it" (Freeman, 1993:70). Not only are they less dismissive of other religions and cultures but, as Skynner says and as Schopenhauer predicted, many are looking afresh at the ancient wisdom of the human race which, thereby, is flowing back into Europe. Some of this wisdom can help the *centred* Self to remain balanced and in harmony when the stresses and tensions of daily life would inveigle us back to an ego-driven perspective. Schopenhauer even thought that much New Testament Christianity is Indian in spirit and, most probably, in origin, having been informed thereof via Egypt (Schopenhauer, 1966: vol2, 488). This view is more recently endorsed by those of Gruber and Kersten in their book The Origin of Jesus (1995). For Schopenhauer the ideas of eternal life only applies to the Will. It alone has always existed, i.e. had no beginning and can have no end. To believe that an infinity of time elapsed before our birth but from that point a second infinity begins in which we will be immortal, seems outrageous - only the unborn could be immortal. As the aphorism quoted by Schopenhauer puts it, "Nothing comes out of nothing, and nothing can become nothing" (1966:vol2,487). It is the Will that

is eternal; its phenomenal manifestations, our bodies of which we are conscious will die since, if birth is an actual rising out of nothing, then death is an actual annihilation.

Being is the simplest form of awareness. It is the point to which ideas of Self returns from the clutches of ego once the process of individuation is realised. Nothing in the outside world is validated apart from the firing of our own personal neural networks, i.e. our brains. Not only is our idea of God not "out there" but inside, as Freeman (quoted above) found; our idea of everything else is also internal. From here, we not only contact the outside world but we create it. What is important, I believe, about the idea we have of Self is that we do not allow it to trap us in the past from which it has developed. Self must have both an element of the, aptly named, Ego Theory and the Bundle Theory. Our notion of Self has, obviously been built up from past experiences and the memories of those experiences which are part of our personal neural network but, equally, that network is in the process of continual change. The past which forms our emergent ego need not hold us ransom unless we mortgage our present to it. If we are to escape the thralldom of past self-images then we must be capable of taking a third-person view whereby we are less attached to our own limited point of view, realizing it to be the product of our own neurological processes. Equally, we should realize that our worldview is culturally defined and should not be automatically deemed to be wholly right or wholly wrong. Chopra (above,p.325) writes:

The highest state of consciousness available to us is unity, which erases the distinction between observer and observed. In unity, everything you once thought was "out there" is seen to be part of yourself. What prevents this experience is a false sense built from images of past experiences.

Admittedly, we cannot escape an initial sense of Self which is built up from our past - our experiences as a child developing in a certain environment at home, with friends, and in school - happy and sad memories of these together with achievements and failures, then and since, all go into giving us the image we have of ourselves. However, even the seeming strait-jacket of the past need not be such when seen from a changed perspective and the Self we construct *now* in the present can be liberated; no longer must “the child be father to the man” but rather “what we think we are *now* we are”.

This underlying intelligence which Chopra sees as operating at the quantum level enables us to escape from the psychological thralldom of time with its energy-draining regrets and to concentrate our whole energy on living *now*. Our egos would hold us in a crippling grip of distortion, albeit regret and dissatisfaction or unrealistic desires, but the individuated personality unites both conscious and unconscious in a created Self whose energy flow is not drained by either the past nor the future. Our *now* is supported by unity instead of being mortgaged to either past or future. Such a refocusing of our ideas about the nature of the Self involve the harmony and balance in freely becoming a *centred* Self(4).

Interestingly, those who meditate seek to enter a field of “calm” similar to the “vacuum state” or “quantum void” of the quantum field theory where, although defined by total emptiness, there remains the potential for infinite energy. The first two aspects of Buddhist meditation are represented by the Sankrit words *samatha* and *vipasyana*. *Samatha* means *stopping, calming, tranquility*, whilst *vipasyana* means *insight, looking deeply*. This same questing for inner reality comes to us again in the words of the Old Testament psalm (46:10) “Be *still* (*samatha*) and *know* (*vipasyana*) that I am God”.

In this chapter I have shown that the neurological manifestation of human nature can be modified as we create a *centred* Self. The fidelity of our neurological system is such that our inner subjective interpretation of the objective world cannot possibly be anything but an incomplete picture of reality as our intellect strives to present an adequate selection for our survival. However, in pushing at the borders between objective and subjective, conscious and unconscious, we help to provide for our metaphysical need for inner unity and integration. As the phenomenal brain gives us the only intellectual representation of what there is to know so it is from here that we create our world from where we communicate with those of others. In realizing that all our subjectively created worlds are neurologically determined we can adopt a less dogmatic approach as we realize, not only our own fallibility but, our own affect upon the environment of which we are a part.

Chapter Four

Morality and the Self

In this chapter I want to look at our sense of both personal and collective morality within the pluralism which defines the post-modern condition. It is only through the moral basis of the Self that we can truly create a *centred* Self with the potential of being free of the desires, fears, anxieties and ambitions by which, otherwise, we repeatedly become ensnared.

At the end of Chapter One - *Neurology and the Self* - it was suggested that there are certain intangible things, such as our representation of the Self and our values of goodness and love which should be cherished for their human survival value, lest, in our desire to be independent of our nature we destroy some of the very things on which, unknowingly, we depend. Here, I want to suggest that another of these things is our sense of both personal and collective morality. It seems that the more we discover about how things work at a material level the more we take them for granted and the less value we give to their contribution to our inner lives both individually and collectively - similar to the way in which children as they develop lose interest in the *mysteries* of a conjurer once their wonder has been replaced by knowledge of how the "magic" tricks are performed. Rudolf Llinas, Professor of Neuroscience at New York University School of Medicine, tells (Blakemore/Llinas, 1987:351-2) of a student who, having been particularly interested in what he had been taught about the nervous system, said, "But, now that I have learned neuroscience, I find that I still do not understand, for instance, how I see". Although the student may have been able to recite the functional and anatomical properties of the visual system from retina to motor neurons, he felt that even though he could follow the whole system, he still had no conception at all of what it is to see (1). As I have argued, in

various ways throughout this thesis, there is a need, albeit something as yet unknown to scientific analysis, for something that will link what we discover at the micro level to possible consequences at the macro level; it is one thing to reel off the neurological causes of severe back pain but until we are able to relate that, by way of relief, to the “whole” man, who is doubled up in agony and unable to stand up straight, then we have not dealt with the most serious problem i.e. the overall experienced effect. How do we get from the neurology to the experience? In the case of vision, “the point is,” as Llinas says, “that understanding the function of connectivity of the visual system is not sufficient to understand vision”. So, in the case of morality, we should try to link what goes on at the micro level of neurology with our representation of Self, our inner lives, and the social consequences of our actions. Not only should we try to understand the neurology but we should then move on to discover how this can be used in the creation of a Self. I want to suggest that we should not see the world in terms of a dichotomy between distinct matter and mind, material and spiritual, or even, self and others, but as a continuum along which we move easily, back and forth, from one to the other. In this way we will find ourselves not so much becoming independent of our nature as realizing just how dependent and co-operative we need to be.

I want to argue that as with quantum physics there is a unity of which we may be unaware between matter and mind, material and spiritual, and self and others. A *centred* Self is aware that the sense of Self is subjectively created through neurological processes and that, as such, it is both malleable and less restrictive than was the old idea of the Self as a fixed objective reality. No longer in thrall to the ego it is capable of a larger degree of detachment and compassion.

The dangers of ignoring and neglecting our Selves, what we are, has been well described by Jung. Drawing a parallel between the conflict within the Self's conscious and unconscious and that existing between East and West during the Cold War period, Jung saw the person like the human race carried away by unconscious powers which are the result of collective cultural development. For him the individual, like mankind, is threatened by self-created and deadly dangers that are growing beyond his control. In a book published shortly after his death he wrote (1964:85):

...They [Western societies] have begun to realize that the difficulties confronting us are moral problems, and that the attempts to answer them by a policy of piling up nuclear arms or by economic "competition" is achieving little, for it cuts both ways. Many of us now understand that moral and mental means would be more efficient, since they could provide us with psychic immunity against the ever-increasing infection.

But all such attempts have proved singularly ineffective, and will do so as long as we try to convince ourselves and the world that it is only *they* (i.e. our opponents) who are wrong. It would be much more to the point for us to make a serious attempt to recognize our own shadow and its nefarious doings. If we could see our shadow (the dark side of our nature), we should be immune to any moral and mental infection and insinuation. As matters now stand, we lay ourselves open to every infection, because we are really doing practically the same thing as *they*. Only we have the additional disadvantage that we neither see nor want to understand what we ourselves are doing, under the cover of good manners.

My argument is that becoming a *centred* Self allows us to take a detached, third person, view and take account of what Jung called “our shadow”. For Jung, the notion that man has conquered nature had something of a hollow ring since man has not yet gained control over his *own* nature; the “reason” with which we convince ourselves of our pre-eminence is our greatest and most tragic illusion. Quoting Pascal’s words, “The heart has its reasons that reason knows not of”, Stuart Sutherland, Professor of Psychology at Sussex University, goes on to write that “One must distinguish between rationality and morality: attempts to justify morality on a rational basis have always foundered” (1992:7-8). He goes on to point out that not only are we victims of our instincts and self-serving desires but that we are also governed by the state of our bodies, particularly our brains. Although not dealing specifically with neurological dysfunction he does instance the particular condition where should an epileptic seizure occur due to a focus of nerve cells firing simultaneously in the mid-brain of the right hemisphere certain personality changes can take place as a result. Such changes can make a person highly religious and cause them to avoid sex in any form and to give up all addictions such as smoking and alcohol. When the focus is removed the person returns to his previous existence: he may become an atheist, go back to cigarettes, alcohol, and the pursuance of sex. Sutherland (pp.10&11) speculates that the form that the Christian religion has taken may be, in part, due to an epileptic attack suffered by St Paul on the road to Damascus (2). Such speculation, however, should not be allowed to detract from the cogency of the teaching of this evangelist whose letters to Christians preceded the writing of the gospels. Words found in the Letter to the Galatians are apposite to the *centred* Self philosophy that I am arguing for. Here we find the crucifixion, not just as an event in time but, as an inner experience which transcends time. Paul writes of being crucified with Christ and then living a different life. Here we have the heart of the conflict with our imagined Self. Those who would be nice, unselfish and generous cannot expect any help from their

biological nature, as Dawkins says (see Chapter Five - *Illusion and the Imagined Self*) but such genetic predispositions have to be stood up to as in a personal conflict with oneself.

In matters of belief, albeit belief in God or prejudice as, for example, against coloured people, we often operate on the basis of our “feelings” - our likes and dislikes - rather than our intellect - our reason - to decide whether a proposition is true. We sometimes create God or dethrone Him/Her not because of sound empirical evidence but according to our emotional interaction with our environment at the time; similarly, our view of coloured people in general, or any other group whose *difference* could be used to single them out, may differ considerably alongside our specific interactions at any one moment. Arthur Miller, the playwright (born 1915) has written several plays highlighting the social problems in America such as his *The Crucible* in which the Salem Witchcraft trials of 1692 are used as a parable for McCarthyism in the 1950s. In the 1940s he wrote his only novel *Focus* which draws attention to the anti-semitism of that time occurring in New York. Briefly, the story has it that a man looking out of his apartment window one evening sees a Puerto Rican woman being attacked by a man. He does not interfere because he thinks it none of his business and, anyway, the Puerto Ricans should be used to such attacks and since she is probably out for no good purpose, she should take care of herself. Back at work his boss insists that he buy a pair of glasses to help his failing eyesight. These glasses give him the appearance of being Jewish, and although, in hiring people to work in his department, he complies with company policy not to employ Jews he himself is demoted so as to give him a job with a less public profile. He leaves and seeks work elsewhere. In his own neighbourhood he comes in for persecution from a vigilante group who are intent upon forcing all Jews to move out of the area; they’ve already made the only remaining Jewish resident, a newspaper vendor, move. Miller has clearly pinpointed the difficulty we have in maintaining a rational conscious hold over

what Freud called the “archaic remnants” and Jung the “primordial images” of our less rational unconscious. Because we are so self-absorbed in an egoistical way our reasons becomes informed by negative feelings of fear in the face of change instead of being stimulated by creatively positive feelings able to be inclusive, rather than exclusive, of others as I am suggesting that a *centred* Self would be able to be.

In his book *Man and his Symbols* (1964), Jung explains his theory that just as we see all the stages of evolution in a growing foetus so there is a “collective unconscious”, which develops within everyone, that holds the mental expressions, or instincts, of the past. These, Jung calls “archetypes” and they come from the way our ancestors understood their world. Jung illustrates this by telling how the primitives of Mount Elgon in Africa still follow a tradition passed down by their ancestors in which, every morning, they breathe or spit into their hands which they then raise to the sun, *munges* (from the Polynesian root *mana* or *mulungu*). Such myths, archetypes and symbols have a profound affect on the collective unconscious and become part of how we *feel* about our existence (3). We may recall here the way that God is said to have breathed into Adam the breath of life (Genesis 2:7) or, again, into the dry bones to make them live (Ezekiel 37:5&10); also, Christ is said to have healed “the man born blind” by using his spittle in order to make the clay he applied to the man’s eyes (John 9:6). Although much of this symbolism goes back to what we might think of as a medieval view of life which has since been superseded, it remains as part of the collective unconscious behind different cultures. The time-hallowed archetypal dream is that of a Golden Age where justice and honesty ruled, and when ageing, grief and distress did not exist. Such symbolism, drawn not only from the Garden of Eden story but also from other myths which speculated about the original conditions of humanity where there was no need to labour, have always provided an impetus and symbolism for mankind, particularly noticeable during certain eras like

that of Romanticism. Myths of this kind go as far back as the Works and Days of Hesiod in Greece which is identified with the time of Kronos, prior to Zeus, or in Rome with that of Saturn.

The Romantic era apart, since the Enlightenment too much emphasis has been placed upon "reason" to the detriment of how people feel about things and yet cold reason often lacks the motor it requires to drive it. Many a potentially able student has been left behind by those with less intellectual potential but more motivation. The way we feel about things is ignored at society's peril. For example, the poor economic conditions in Germany following the Treaty of Versailles after the First World War which led to unemployment and deprivation among the population and gave rise, during the 1930's, to the German government's introduction of the scheme Strength Through Joy and compulsory work, for those trapped in poverty, building the autobahns. It was in this climate that Hitler mesmerized people, as he did at a rally of some 50,000 people in Nuremberg, with his oratory and inflamed their feelings to a point where they overran their consideration for the rest of humanity. Once emotions had been stirred, mind without heart, rationality without feeling, contributed toward the spirit of Nazism *but* naked emotion without sufficient rationality may lead to religious wars as between Jews and Arabs, Christians and Moslems, and Sikhs and Hindus. This century has taught us just how fragile Kant's "moral law within us" can be, how moral reasoning can so quickly be overturned when we *feel* that we think we can benefit ourselves and escape any adverse consequences in doing so, e.g. even corporate bodies might consider dumping harmful chemicals into rivers to escape the economic cost of approved disposal methods if they could escape detection and the legal consequences. Wilkes (1993:5) reminds us (critically) that one test suggested to discover the fundamentality of morality is to ask "what if we all had a *Gyges* ring to make us invisible at will?"(4) If we could escape

detection for what we do by occasionally becoming invisible then would we remain moral?(5) It is not for nothing that we need independent environmental protection agencies, such as Green Peace. Parfit writes of the Samaritan's Dilemma (1984:60):

Each of us could sometimes help a stranger at some lesser cost to himself. Each could about as often be similarly helped. In small communities, the cost of helping might be indirectly met. If I help, this may cause me to be later helped in return. But in large communities this is unlikely. It may here be better for each if he never helps. But it would be worse for each if no one ever helps. Each might gain from never helping, but he would lose, and lose more, from never being helped.

So, how can we realize the moral self within us? How can we become *centred* Selves? Should we even try, as I am suggesting that we should, and is not the answer to this question something to do with the way we see ourselves in the world, the way we *feel* about things, whether or not we are seen, and see ourselves, as part of society or whether we are alienated or disaffected? I have to admit that initially I find the comment of Stephen Hawking (1995) that we are no more than "chemical scum" on planet earth and have no other significance to the Universe whatsoever, hard to come to terms with. It is not as though this is a completely new idea but for one thing, it goes against the collective unconscious, our common sense kind of thinking, in a way that not only requires us to rationalise our own feelings but to do so in a way that could be detrimental to our species. For Kant, belief in the existence of God and the immortality of the soul were "practical postulates" that give an ordered existence. They provided a universal basis for his moral law formulated in his second Critique as a "categorical imperative". His principles can be seen as commenting on and amplifying the Golden Rule of many

Eastern religions and philosophies, “Do not do to others those things you would not wish them to do to you” (6). First he says, “Act only on that maxim through which you can at the same time will that it should become a universal law”. Then he expresses the same sentiment as “Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end”. What happens when we knock away this basis, if indeed we can given our neurological inheritance? Knowing something rationally is not the same as making it part of our collective unconscious and this is, presumably, why many people under stress, e.g. in battle, pray to a God which is part of an imagined Self that was left behind, rationally, as wonder and creativity atrophied and gave way to a more structured, and so-called adult, way of thinking. While we are so concerned with the literal truth painstakingly unravelled by the application of modern science and mathematical laws we often forget that we depend upon another facet of our character, what Gelernter (1994) refers to as, “low-focus” thought, as opposed to the high-focus of structured thinking, and that without it we would be less capable of the creative processes of lateral thinking. (Our capacity for low-focus, flexible thought gives human beings a dimension other than the logic on which the function of a computer depends. See Chapter Five - *Illusion and the Imagined Self*). Without the impetus of such creativity many of the ideas which have revolutionized the way we live and our understanding of our environment may not have come to light. In this respect the story of how, in 1858, the German physicist, Fredrich August Kekule brought great change to organic chemistry when he discovered the molecular structure of the benzene ring, is apposite. Quoting from Stanley Burnshaw’s The Seamless Webb (Penguin, p177), Campbell (1973:138) writes that Kekule had been working on a chemistry textbook but without much success. Then, Kekule recalled:

My spirit was on other things. I turned my chair to the fireplace and sank into a half-sleep. Again the atoms flitted before my eyes...Long rows, variously, more closely united; all in movement, wriggling and turning like snakes. And see, what was that? One of the snakes seized its own tail and the image whirled scornfully before my eyes. As though from a flash of lightening I awoke; this time again I occupied the rest of the night in working out the consequences of the hypothesis.

Here it was the working of the creative processes, the low-focus thoughts, that provided inspiration on which the logical processes of the high-focus thoughts work. Similarly, the French mathematician, Jules Henri Poincare (1854-1912), who attacked the logicist programme of Frege and Russell by denying that mathematics can be reduced to logic and arguing that further intuition is always needed to derive the properties of number, described how, despite periods of intensive intellectual effort in his search for a type of mathematical structure that he would eventually term "Fuchsian functions", he had failed to make progress. Then, he relates (Barrow, 1992:275-6):

I left Caen, where I was living, to go on a geologic excursion under the auspices of the School of Mines. The incidents of the travel made me forget my mathematical work. Having reached Coutances, we entered an omnibus to go to some place or other. At the moment when I put my foot on the step, the idea came to me, without anything in my former thoughts seeming to have paved the way for it...I did not verify the idea; I should not have had time, as upon taking my seat in the omnibus, I went on with a conversation already commenced, but I felt a perfect certainty. On my return to Caen, for convenience sake, I verified the result at my leisure.

Clearly, we are not computers and cannot live by logic alone. Trying to do so, I believe, would impoverish life considerably. Certainly, our intellect can present a possible scenario in which our existence is no more than an accident and, some might say, an absurdity. Leaving aside the fact that this theory has no conclusive proof, it seems to me that existence is a gift (intended or accidental) not to be squandered and, like the talents in the parable told by Jesus (Matt 25:14-30), it can probably be increased (enriched) if wisely looked after, given an environment in which to flourish. As Baier says, "To be moral is to recognize that others, too, have the right to a worthwhile life" (Hanfling/Baier, 1987:32). Whether or not this "worthwhileness" comes from the belief that life is the gift of God and has an eternal *purpose* or whether, having no such significance beyond a limited period on this planet, it comes from our own existential value judgement, should not matter. Regrettably, it sometimes takes a meeting with someone who is blind or deaf for us to recall what wonderful gifts are sight and hearing. So, from whatever source, we are the recipients of some truly wonderful resources and it's down to us to make the most of them.

One of the points that used to be frequently made to children in Sunday School was, and probably still is, that without the work of people in other countries our own lives would be very much impoverished. Children would be asked to consider the cornflakes etc. that they might have eaten for their breakfast and think about the different countries from which the ingredients had been imported thus giving them an instance of, so-called, global dependency. As well as having many personal things to be thankful for, we also benefit from mutual co-operation and the application of principles of conduct. Again, during one Christmas, my daughter, having returned from university, was quite surprised to find me watching one or two religious programmes on television. Presumably, she thought that despite my having spent over twenty years of my younger life as a lay

preacher and, would be, candidate for the ordained ministry, now, as a philosopher, I would have grown out of such feelings. I explained that I was still very much interested to learn how various people cope with life. Happily, this must have seemed a satisfactory answer to her. I suppose, for one thing, my physical difficulties have made me face up to questions that otherwise I might not even have considered and, even if I had considered them I might have been satisfied with an answer which more rigorous questioning would have shown to be based on unfounded assumptions. In this sense I can appreciate Schopenhauer when he says, "...pleasure and well-being is negative and suffering positive" (Hanfling, 1987:99). Of course, there can be much sentimentality associated with reactions to someone who is viewed as being *disabled* from which I would wish to disassociate myself. There is the view that one is being "courageous" in battling against the odds but, while I cannot speak for others, I consider that this is the only viable option. It is not that one chooses to do this but that the other alternatives, such as vegetating, are much worse. Here is where my imagined Self (see Chapter Five) comes in. Like most "normal" people I am shocked when I hear my voice on tape - this is the only time that I realize that I have a speech problem (7). I am amazed when I catch sight of myself in a full-length mirror since my normal perception of myself is just that, *normal*. There is no way in which I see myself as being *disabled*; when I fall over it is just an inconvenience and although it happens to me more often than to most people it could happen to anyone. I can well understand that this business of my perception of myself might be very puzzling to many people but if they compare their perception of the way they speak with how they would hear themselves on tape, notwithstanding certain recording imperfections, then, perhaps this may give them something of an insight into the way I see myself.

Clearly, none of us perceive ourselves precisely as we are perceived by others. For one thing, we are perceived by others, first of all, as *external* bodies whereas we create the image of ourselves from our *internal* neurological experience of being *us*. The differences start to come closer as we are able to *communicate*. One of the things which caused me to question seriously the Church's proclamation of a caring God was the frustrating experience I had when a candidate for the full-time ordained ministry. Years before I had been turned down when I wanted to become a lay preacher. I nevertheless persisted in my request which I renewed each quarter year when these matters were considered. I also took the opportunity of preaching whenever individual congregations invited me or when, for one reason or another, the planned preacher failed to turn up for his appointment. Eventually, a new superintendent minister was appointed to our group of churches and a friend of mine, himself a lay preacher, took it upon himself to acquaint him with my situation whereupon the minister said, "Well, if your friend is so determined to preach the Gospel I am going to include his name on the regular preaching plan". So I preached acceptably for about five years but when I wished to become an ordained minister I again had problems. To try to overcome these I decided to spend twelve months at an evangelical training college where students lived in. My hope was that the Principal and staff would have adequate opportunity of observing how I coped and overcame obvious physical problems and that they would support my candidature. This the Principal was more than willing to do believing that I should have been permitted to go on to theological college. However, the medical officer for candidates prevented me going any further by suggesting that I might have epilepsy. Believing this to be incorrect I asked the Spastic Society if they could help and they referred me to a local specialist in cerebral palsy. After a full medical examination which included an EEG (electroencephalogram) test the specialist wrote to the Church authorities that, in his opinion, I had no more chance of having an epileptic fit than he (the specialist) had.

After this I was asked, by someone high up in the church's establishment with whom I had to meet for him to decide whether or not I could go forward, how I would manage to give Holy Communion since my hands are not steady enough to handle the wine. I said that this need not be a problem since there would always be someone present with a pair of steady hands and that as long as I was there to see that due respect was given then that person could deal with this aspect for me. Obviously, my determination throughout my life has been necessary for me to do almost anything at all and when, on this occasion, towards the end of the interview I was told that I could not proceed with my candidature I stubbornly asked *why?* A very frustrated reply was made that I would *put people off coming to church*. It was clear for all to see that I had not done so as a lay preacher but even I had to see that as far as my hopes of being a minister were concerned I had reached the end of the road since I had failed to communicate to a stranger, in the space of a single interview, the perception of *me* which congregations and a college principal, had come to see, over time! Apart from this my own perception of the Church might have still been filtered through rose coloured tinted spectacles and I may not have questioned the underlying false assumptions about the possibility of non-discrimination within organized religion on which I had been prepared to build my life. The saying, which I recently heard quoted by a rehabilitated drug user that "religion is for those seeking to avoid going to hell while spirituality is for those who have been there", would surely have been appreciated by Schopenhauer.

Feelings can obviously mislead us so, to remind you of Sutherland's remark, quoted above, "One must distinguish between rationality and morality: attempts to justify morality on a rational basis have always foundered", where does this leave us? Is it true that we can neither rely upon reason nor emotion? Well, clearly "yes", both can be unreliable in this respect. Reason is, I believe, affected by emotion and lack of knowledge

just as light is warped by matter. In the above illustration the Church and I saw the situation from different perspectives which were informed by a limited amount of knowledge. We both made value judgements that were *relative* to our differing view points of the situation and what we considered to be possible. It would be arrant nonsense for the Church to claim that it had a God-given absolute standard against which to measure such situations as it ought to have learned from its terrible history during the Middle Ages. We are all constrained by incomplete knowledge and experience whether we like it or not. In such a situation we can be led astray by the arrogance that assumes more *reason* than it has a right to and by prejudice which is the *feeling* of fear in the face of change. To be moral is to have the courage to recognize our own limits and not to be blinded to the insights of others because of those limits and the growth-denying inflexibility of our outlook. To promote reason we should avoid rigid, dogmatic viewpoints whilst remaining mindful that not *everything* is for the best in a world where, perhaps more than we realise, our actions are the threads that contribute to the web of life.

Undoubtedly, we face a most pernicious dilemma in today's post-modern, pluralist, world which is devoid of absolute values, a world in which, as Popper has shown us, we can never prove something to be true, we can only prove it to be false. Does this mean that while requiring order in society we are condemned to struggle in chaos? Recent cases do not give us much reason for hope. A case in point came before the Crown Court in Snaresbrook on the 9th March, 1995:

A 25 year old 6ft 6in tall, recently qualified, medical doctor whose wife asked a young man not to smoke whilst they were waiting at an underground railway station ended up being attacked by the young man and an accomplice (unnamed

for legal reasons and expected to be dealt with at a later date) in which he suffered memory loss, four broken teeth, a broken nose, and the rupture of a disc in his back; injuries that had prevented him from working since the incident seven months ago. The court heard that the accused, having been found hiding in a wheelie bin, told the police, "I was behaving like an animal or something like that. God, I can't understand myself." After the verdict, finding the accused guilty of assault(8), the doctor is reported to have said that in this day and age there is a fine line between being a good citizen and being too good and he had warned members of his family not to act, in similar circumstances, as he had done. (*Daily Mail*, 10, March, 1995, p5).

Must we say that because moral standards are only relative and could be subject to revision in the light of future additional knowledge and considerations they can be abandoned? For example, traffic lights placed at a busy road junction as a safety measure may, at some future date, be replaced by a roundabout but the removal of something that is useful, in this case the traffic lights, would not be carried out unless its replacement is considered to be more beneficial. Who would go to an airport and confidently wait to board an aeroplane if they were told that there was no control tower to direct aircraft taking off and landing? Again, it is far better to use a map that guides us in the general direction than to travel without any idea at all of where we are going (9). Until Einstein discovered, in his General Law of Relativity (1916), that material objects in space bend light it was thought that Newton's Law of Gravity gave an absolute method for making calculations in astronomy. Since then, however, because it is known that the bending of light rays near the Earth is twice the amount given when using Newton's Law, general relativity, which, according to Krauss (1994:182), "generalizes Newton's Law and reduces to it in the cases where the gravitational field is small", is used. Nevertheless, the genius

of Newton is still that using his Law of Gravity alone scientists can weigh the sun to almost one part in a million and predict the motion of the planets around the sun and of the moon around the Earth with extreme accuracy. "Moreover", writes Krauss, "Newton's Law is all that is necessary to compute the motion of projectiles near the Earth's surface to an accuracy of better than 1 part in 100 million" (Krauss, 1994:182). Of course traditional use of anything does not guarantee its accuracy and when flaws are found then reassessments have to be made as to whether or not the tradition still has value. What seems to have happened as far as morality is concerned is that many people who think that they have emancipated themselves away from a belief in an externally existing God have also thrown away the moral principles which have slowly developed as part of our culture. The tragedy has been the assumption that without an absolute God all our associated moral values can be *falsified* and this is just not true. Indeed, just as Newtonian physics are still taught in our schools and are used for practical purposes in everyday life for planning, say, the construction of a bridge over a river or the calculating of the trajectory of a spacecraft flying from the Earth to the Moon (White, 1993:16), so too may we use to advantage wisdom that has come via many sources and, sometimes, over centuries of time.

Unfortunately, the world of morals, as with economics, deals with human behaviour and cannot be expected to be as predictable as physics. Ever since the time of Locke the executive, e.g. an arresting authority like the police, have applied the absolute law established by the legislature of Parliament which the judiciary of the courts have modified relative to individual circumstances. This seems to be the best that we can manage and in present conditions, where increasingly moral consensus cannot keep pace with change, social tensions are all too visible. The argument that says we should not accept a principle until it has been *proved* to be absolutely true is false. We have never

been in a position to *prove* that something is absolutely true, we only thought that we could. To prove that something was absolutely true we should have to *know* that it is in accord with everything that exists but we will never know whether we know everything that exists! Notwithstanding these problems no one in their right mind would turn away a fire engine and crew when their house is on fire just because they were unable to prevent the fire from starting in the first place. Yes, we might need a new system but it seems sensible not to get rid of what we have until something which may work better has been rigorously tested and installed.

Looking back and learning from history it would surely be beneficial if we treated with caution the panaceas sometimes being offered for individual and social moral malaise. We dare not allow science alone to be responsible for the formation of a moral Self and we should be especially vigilant in an environment where science has undoubtedly improved the lives we live that we do not allow ourselves to think that no other input is necessary. In their biography *Einstein: A Life in Science*, White and Gribbin tell us that what appears to have shocked Einstein at the onset of the First World War was what he saw as the totally insupportable attitudes of his colleagues and co-workers (1993:117):

The majority of scientists on both sides supported the war effort of their respective nations. Einstein was wholly against this. He was appalled by the fact that the men for whom he had the greatest respect as intellectuals and thinkers should be taken in by the stupidity of hostile governments. He found it most impossible to reconcile what he saw as simple-minded barbaric actions with the refined intellectual heights of scientific endeavour. Above all, he could not believe in the principle that science should be applied to developing means to kill people, whatever their political affiliation.

Partial scientific knowledge can too easily be applied unwisely to social problems. In the Victorian era eugenics, associated with Francis Galton who was Darwin's cousin, was thought of as a way to *improve* mental and physical inheritance by controlling human breeding through selection. Galton thought that the human race could be improved by selective breeding in the same way as can be done for sweet peas or Hereford cattle. This idea was abused by the Nazi Party to justify either the sterilization and, later, the extermination of entire groups of people during the 1930's. The exterminations followed, after a Bavarian health inspector said, in 1933, that Germany's Nazi sterilization law would not be enough to stop the hordes of psychopaths, feeble-minded and other "inferior types" threatening the race. Since then, several countries have introduced programmes of eugenics with, perhaps it could be argued, a little more humanity. The Hutchinson Encyclopedia under "eugenics" tells us that:

...in some Chinese provinces there is compulsory sterilization of people regarded as physically or mentally defective...In 1986 Singapore became the first democratic power to adopt an openly eugenic policy by guaranteeing pay rises to female university graduates when they give birth to a child, while offering grants towards house purchase for non-graduate married women on condition that they are sterilized after the first or second child.

The eugenics movement in Britain ended with the great socialist and geneticist, J.B.S. Haldane, who suggested the separation of the act of reproduction, in which children would be developed outside their mother's body, from that of love. This idea, which he called "ectogenesis", was satirized by Aldous Huxley in his novel *Brave New World*. Today we are on the verge of exciting genetic breakthroughs in which vegetable crops might be

genetically manipulated to make them immune to certain diseases and rot, and genetic defects causing such disabilities as cystic fibrosis in human children might be prevented. But there is clearly a need for safeguard against abuse of what Stephen Rose, Professor of Biology at the Open University, has called "neurogenic determinism". Such determinism argues that since behaviour is partly due to a person's biology then anti-social behaviour might be treated biologically rather than sociologically. Concern is sometimes expressed that unscrupulous people could use genetic testing as a reason to carry out a policy of eugenics. Rose himself was reported to be alarmed by a United States proposal for a Federal Violence Initiative to identify inner city children "whose alleged biochemical and genetic defects will make them prone to violence in later life" (Radford, 1995:3). Radford argues that there are good and bad in all families and says that most geneticists argue that genes only provide the blueprint for *potential* and that environment plays a part in *what* and *who* you are. It could be that the biology of an entrepreneur may very well have given rise to a criminal under different environmental conditions. In an article about a criminal case in America, Radford claims, lawyers are hitching their defence argument to a study in genetics to show that their client is the victim of his own genetic determinism. This study, carried out by Dr H. Brunner and his colleagues in the Department of Human Genetics at the University Hospital in Nijmegen, Holland, involved the investigation of a Dutch family spanning four generations in which the males had a tendency to borderline mental retardation and impulsive aggressive behaviour which manifested itself in arson, attempted rape and exhibitionism. Some of the women in the family had approached the department for genetic testing because of concern that they could be passing down the *personality defect* seen time and again in their menfolk. It was found that the affected males in the family had a genetic abnormality of the X chromosome which led to a deficiency - MAOA - in one of the enzymes that send messages round the brain. However, such metabolic

defect, thought Brunner, might only be part of the equation; they could, for instance, give rise to the males reacting violently to substances in the environment such as drugs or, even cheese (10). Certainly, Brunner had not found a *crime gene*.

I don't think there are going to be master genes for aggression or any other *human emotion* (my emphasis). There are not going to be ten behaviour genes, not 100, but thousands of genes and environmental factors as well. There is no way we are going to be able to make that particular sum. What we have reported is a single observation...If the next family with MAOA deficiency is completely normal, that gives a whole set of new questions.

One of the aims of the Human Genome Project is to discover where our genes are on our chromosomes. Looking for a gene that carries inherited susceptibilities to things such as colour blindness or haemophilia seems to be an admirable thing to do, particularly, if it may leads to treatment and, even, their eradication but to search for "behavioural" genes seems to be a futile and morally dangerous enterprise to engage in. Notwithstanding that our behaviour is probably as individual as are our fingerprints, the injudicious application of partial scientific knowledge to social problems can have the most horrendous consequences. For example, some IQ tests, which tested a child's logical ability while ignoring their creative side, have now been discredited but were used, not only to condemn many children to the educational scrap heap and thereby possibly adversely affect the rest of their lives, but in some States of America were used alongside very suspect hereditary details to incarcerate, and sterilize young women as recently as the 1920's. My own parents were told on several occasions by different doctors that I was ineducable! I eventually went to primary school when I was six and a half years old. Later, I was unable to take the 11-plus examination because my slow writing ability

prevented me from completing the papers in the time allowed. To get round this problem an educational psychologist was asked to carry out some psychological tests to give an indication of my potential ability. Unfortunately I scored very badly in the non-verbal intelligence task of *assembling objects* and the opportunity of a grammar school education was denied me. To this day, I have problems in this area but the same cannot be said of my verbal intelligence (where, for instance, recent tests have put my vocabulary in the top 4% of the population) as reference to figures quoted in my concluding chapter to this thesis will show. In the introduction to his book, *Emotional Intelligence*, (Bloomsbury, 1996,p.xii) the psychologist, Daniel Goleman, argues that *emotional intelligence*, which includes self-control, zeal and persistence, and the ability to motivate oneself, matters more than IQ (11).

Sartre said, in his *Being and Nothingness*, that not believing in God reversed the order in which we view our existence; we do not believe that *essence*, that is purpose, precedes existence but that existence precedes essence. Starting from *nothing* man *makes* himself and, therefore, becomes responsible for the result. This is the first principle of *existentialism* and, in as far as he is referring to *being-in-itself* as opposed to what he chooses to call *being-for-itself*, I believe that he is correct. What needs to be questioned, however, is his assertion that there is no human nature because there is no God to have a conception of it. For Sartre, being-in-itself is the material, unconscious thing such as a stone, whereas, being-for-itself is consciously aware and, therefore, able to decide what action it participates in. We are condemned to be free in as far as having no absolute standard, we are at liberty to "choose". Human nature is as determined as ever it could be via DNA. People are not free to choose, for example, whether they have muscular dystrophy and having it limits many other choices; some of these are imposed by the disability itself and others by the public's perception and the extent of their tolerance and acceptance.

It is neither true that essentialists are wholly determined by what they receive from nature or that existentialists are wholly free but what does seem to be true is that people have different potential for good and evil and that different environmental conditions may encourage one or the other. If society makes it impossible for someone to escape the poverty trap then they encourage a condition where those who have no stake in society may feel unwilling to uphold it. Yet, in the complex developed society in which we live we could not exist a single day if all law was suspended. In order to have more freedom we have to choose to give up the freedom to be evil. To take a simple illustration: having borrowed money we are free to choose whether or not to repay it but, all things being equal, there is surely no grounds on which we could justify not doing so.

I believe that Schopenhauer was right when he gave *compassion* the first place as far as morality is concerned. But I consider that compassion should be shown according to expectation of reasonable behaviour within particular circumstances. I do not think that we show compassion by allowing that all things are desirable simply because someone desires them. Someone, for example, might wish to drive at 100mph in a built-up area but it is not desirable that lives should be put at risk by allowing him/her to do so, nor are the long-term consequences of drugs desirable even when, in the short-term, some heightened experience is desired. The freedom of the *centred* Self can only be gained by our being willing to give up license. Here, in Schopenhauer's terminology, we escape the thralldom of the Will.

I conclude this chapter with the following paraphrase of Jesus' parable of The Good Samaritan (Sangster, 1956:15):

There was once a man who went on a journey through a narrow mountain pass and suddenly was attacked by robbers who stripped him and flayed him and left him half dead. A certain priest came that way. A Priest!...Oh have no fear. All is well with this unhappy man. A priest is coming; a student of the sacred writings, a scholar of the book. And he saw the man...looked on him and...passed by!!! Then a Levite came. A Levite!... Take heart once more. *This* man will not fail. Is he not skilled in all the Levitical law? Is he not master of the code? And *he* saw the man...looked on him...and passed by! Finally came one of no position, no profound learning, no boasted birth; simple of heart and full of the spirit of love. And when he saw that needy man, he melted with compassion and bound up his wounds, pouring in oil and wine.

We see here a connection between the Self that we create - the imagined Self (which is the subject of the next chapter) - and our moral values. It is important, I argue, for the flourishing of human beings that a paradigm shift occurs in the way that we think of the Self and it is becoming increasingly necessary for the survival of the human race. Our imagined Self, in thrall to the ego, must become the *centred* Self able to see beyond its own confines - ego consciousness - which is so limiting to our compassion and moral vision.

In this chapter I have looked at our sense of both personal and collective morality within the pluralism which defines the post-modern condition. I have argued that it is only through the moral basis of the Self that we can truly create a *centred* Self with the potential of being free of the desires, fears, anxieties and ambitions by which, otherwise, we repeatedly become ensnared.

Chapter Five

Illusion and the Imagined Self

Introduction

In this chapter I want to look at the psychological, or what I call the “imagined”, Self. This is the Self that we are acquainted with, as opposed to the “strict” self, or person, that others identify us as being. Like the strict physical person who develops and ages, so the imagined Self is subject to change and it changes not only in response to the passage of time but according to how we think about ourselves. Our physical growth, therefore, is “goal-directed” in the way acknowledge below by Schopenhauer but our imagined Self is a consciously formed intention as we try, not only to establish, but to create who we are. In line with one of the main themes of this thesis my argument will demonstrate that, while we are at liberty to create various “imagined” Selves, e.g. egotistical or self deprecating, what I call the “centred Self” is most beneficial for us both as flourishing individuals and contributors to the humane world to which we would belong. This notion of the Self is both abstract and non-experiential; it is not found in the material world but is “imagined”.

When watching television programmes about natural history it is all too easy to assume that the behaviour of plants and animals suggests some kind of conscious intentionality. Yet, when we think seriously about these things such assumptions are illusionary and must be questioned. For Schopenhauer, all phenomena are a manifestation of the Will and differ only in the causes that precede them. These physical causes he divides into three: cause pure and simple (as happens in mechanical and chemical changes), stimulus and motivation. Plants have no minds and their turning towards the sun is caused by

stimulus rather than by a motive. Nevertheless, Schopenhauer is prepared to call such plant behaviour a manifestation of the Will, because he thinks it can only be understood as goal-directed, even if there is no mind present to entertain the goal (Janaway, 1994:37). As Janaway points out, it is clear that both human beings and animals also respond to stimuli as the example of the involuntary contraction of the pupil of the eye demonstrates. We share some kind of *motive* with animals that perceive the world; they are motivated, for example, by their perception of a predator or their hunger, whilst we bring to bear on the matter our reason and judgement of the most appropriate action to take. Bearing in mind the basic tenets of evolution, including the passing on of genetic information through DNA, it is important that we differentiate between what happens of which we are unaware and conscious intentionality. Whilst some simple analogies can be helpful, they can sometimes also be misleading as they fudge the distinction between what is actually known and the lacuna in our knowledge which is being hidden by too simple an analogy. I am thinking of statements that seem to imply that certain plants consciously develop in such a way as to encourage bees to act as agents of pollination, animals such as elephants to spread seeds by feeding off plants in one area and planting those seeds through the act of defecation in another, and even that trees themselves consciously design the most ingenious packaging for their seeds so that the wind will carry them far afield. For example, the naturalist, David Attenborough, in the Introduction to his book *The Private Life of Plants* (1995), which accompanied the television series of the same name, writes, "The venus flytrap closes when its trigger hair is touched not once but twice. It can count". Yet, however innocently, to attribute intentionality here is as misguided as it would be to imply that intentionality is involved in the case where two positive inputs are required to activate the "and" gate in a computer's circuitry. I believe the Self to be the product of the *conscious* brain; like a

colony of bees or termites, our brain cells work in a goal-directed way but it is in the mind that our brains produce consciously formed intentions.

Section One

Analogy in Neurology

The confusion that occurs in some of our thinking about the Self is analogous to the confusion caused in our thinking about neurology in which we so easily fail to differentiate between what is simply *goal-directed* and what is governed by *consciously formed intentions*. We talk about the brain receiving encoded messages from our senses which it decodes so as to produce a representation of the outside world. For example, we might be told that the cells of the retina, being stimulated by light reflected from an object, transmit coded messages in the form of impulses along the optic nerve to the visual cortex which then decodes them so as to produce a representation of the object. But this appears to attribute to the visual cortex and, perhaps, to individual brain cells, *intentionality*, which they do not possess. In a paper in which he draws attention to the dangers of wrongly used analogies and, especially to the false idea that the brain has a language of its own, Hacker (Blakemore/Hacker, 1987:492), rejecting the idea that cells use inductive logic, writes:

...it is literally unintelligible to suggest that the brain, let alone *a part of the brain*, might ask a question, have or express an intention, make a decision, describe a sunset, undertake an obligation, explain what it means, insist, assert, instruct, demand, opine, classify, and so forth...Brains and their parts can, in one sense, actually *do* very little - just as a computer can do very little, namely pass minute electrical currents through very complex circuits at high speed.

Hacker goes on to distinguish between a code and a language. A code merely substitutes or transposes letters and any coded string of signs lacks any *meaning* until it is decoded so as to reveal information contained in a language which conforms to agreed and learned conventions. What we must do is to distinguish between *information* and *meaning*, the *known* and the *knower*. A filing cabinet, encyclopaedia, or, even a computer, may contain lots of information but it does not *know* anything. Likewise, the brain could be said to hold lots of information and those who maintain that it is a sophisticated computer must address the question as to “who” or “what” is *accessing* it. If the answer is “a self” then this implies some immaterial concept such as a “soul” or “mind”. But are not such conceptions products rather than producers of the brain? Could it be that Anaxagoras and Schopenhauer are right in their concept of a universal force or mind which manifests itself as phenomena and which, according to Schopenhauer (1966, vol2: 197), is known but unknowing and has evolved the intellect which, although knowing is unknown (see Chapter Three - *Human Nature and the Self*). And could it be, in line with Schopenhauer’s thinking, that the Will has an agenda of which we remain unaware, namely to propagate and manifest itself whatever the cost? Is such an agenda intelligent or simply a force that drives evolution in a blind, yet limited, way along an undirected course of replication and mutation?

Dawkins tells us (1995) that in writing his best seller *The Selfish Gene* (1976) he was trying to correct a misconception common at the time following a spate of popular books that had suggested that Darwinism worked at the level of the group or species and that natural selection favours the fittest group. This had led to the idea that individuals are expected to be generous and unselfish and work for the good of the group because any such group whose individuals were selfish would tend to go extinct. Whilst Dawkins acknowledged that it would be nice for all sorts of ideological reasons should this be the

case, he thought that it was a straight conflict between what was simply ideologically nice and what was true and his main interest was the latter. The true message was that anyone who wanted to be nice, unselfish and generous could not expect any help from their biological nature but that such genetic predispositions would have to be stood up to as in a personal conflict with oneself. Here again, there is a correlation between what is being said and Schopenhauer's whole concept of the Will. What does seem to be an issue is the conflict between Will and Intellect to which there is the seed of a solution in Jung's process of Individuation (again, see Chapter Three). In such an application we should have to equate the Will with the Unconscious and the Intellect with the Conscious; the one being goal-directed whilst the other gives access to consciously formed, and reasoned, intentions. The Ego, which usually emerges from the conflict between the Id and the Superego is now displaced by the "self" which endeavours to unite Will and Intellect, Unconsciousness and Consciousness. But here we are on slippery ground - what is our idea of a "Self"?

My attempt to answer the above question would be to say that the "Self" is imagined or, at least, indescribable except in so far as we are able to say in what way we are *using* it; but then again no more can be said of the "ego". In a similar way the word "love", for example, is only describable in terms of how it is expressed. In the well known chapter 13 of the first letter sent to the Corinthians by the apostle Paul we have an attempt to define love as:

- 1) being always patient and kind,
- 2) keeping no score of wrong,
- 3) never being rude nor selfish,
- 4) not being quick to take offence nor become resentful, and

5) not coming to an end.

Love does not exist as a thing in itself. It is primarily a symbol within language. We create it as we put into action those things that we believe define it, albeit expressed in the above terms or in some other way. This is the way we stand up to our possible predispositions in an effort to be nice and considerate. "Love" cannot be absolute or static except as an ideal since in the changing circumstances of our phenomenal world it must adapt and express itself according to relative needs that are apparent at any one time. In the same way, our notion of our "imagined" Self, is changing all the time; even the opinions that we once held so vehemently, say twenty years ago, can sometimes make us squirm with embarrassment now! The thought of Self we had then is not the Self we are now, it has been adapted and continues to be adapted. Notwithstanding, change is a fact of life and will continue to be so unless, that is, *per impossibile*, we are to escape the evolution of our own nature and that of our species; we clearly live in a world that changes and, therefore, we must learn how to cope with change. What we should not do is express these non-absolute, relative terms such as "love, goodness, beauty, ego, and self" as if they existed outside the consciousness of the human mind. I am slightly reticent about including the idea of God in my list of things that may change but I understand the developed thought, expressed to and recalled by the archaeologist, Charles Pellegrino (1995:XV1), of the paleoanthropologist, Raymond Dart that his God "was not necessarily a conscious being separate from man who created the universe through a deliberate act; but rather a spiritual God that lived within us, and came into being with man." Apparently, therefore, he believed that it was through this spiritual God that spiritual works, like the books of the Bible, were written. It seems to me that such a thought is the result of much thinking in the light of meditating upon the varied

experiences and changing understanding of one's life and relationship to what we have come to accept as constituting the world of which we are a very small part.

"Self" is a complex concept or idea made up from the instant memory of several consciously perceived impressions but which we never experienced *simultaneously* despite our *feeling* that the contrary is true. The only thing that is experienced simultaneously with a perception is the emotion it engenders. There is no *personal identity* beneath or behind these perceptions which come and go "as if" in an instant. As I mentioned in the Introduction, this idea, which was put forward by Hume, is in line with the teachings of the Buddha some 2,500 years ago. As Hume writes (1962:301-2):

...self or person is not any one impression...when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never catch *myself* at any time without a perception, and never can observe anything but the perception...I may venture to affirm to the rest of mankind, that they are nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in perpetual flux and movement.

However, whilst the Self is a construct of our brain, the perceived impressions we experience can have profound psychological implications for the imagined Self that the brain constructs. As William James maintains (1890:353) such is the working of the brain that in the *stream of consciousness* our *separate* perceptions take on an experience of *unity*. Modern physics now pose such questions as to how light can behave like *discrete* particles and also as continuous waves and I have already discussed how such things could be tied in with *consciousness* (see Chapter Two - *Consciousness and the Self*).

The “as if” factor, mentioned above, should be taken into account in our use of analogy if we are to avoid becoming ensnared in a semantic loop which leads us into building literal supports for what started out as illustration. An example can be given by considering the way we sometimes think, loosely, of the telephone as an instrument that encodes our speech, transmits it along a telephone wire, and decodes or translates it at the other end. But, as Harris points out (Blakemore/Harris, 1987:509), “If it could do that, the telephone would have been a far cleverer invention than it was; and it was certainly a clever invention in any case.” Since the telephone works by direct process on energy conversion it does not require a language comprised of complex grammar any more than the brain requires one to function in conjunction with outside stimuli supplied through the sense organs. It is, therefore, like following one’s own tail to try and explain what the brain or the telephone does in terms of decoding or translating; one might just as well say, suggests Harris, that when we switch on the light, the bulb understands that it must light up. As the neuroscientist, Greenfield (1995:42) says:

Computationalists frequently refer to the “encoding of vectors,” implying that at some stage a signal, a message, or information is about to be decoded. Nothing could be further from the truth. There is no little person inside the brain translating nerve impulses back into light flashes, tones, and tastes.

Looking back from Hume to Descartes it is easy to see that the latter’s *Cogito Ergo Sum* is undercut as a “clear and distinct” idea (i.e. something so easy that the attentive mind can be in no doubt about understanding), since in Hume we see such a personal identity as no more than a collection of sense impressions. The existence of two separate thoughts does not prove the unity of the identity who is thinking as we learn from people whose

corpus callosum has been cut thus dividing the two hemispheres of the brain; in such cases the same person may put the same type of garment over the top of another because one half of the brain selects the one whilst the other wishes to wear another even though the final result causes some consternation to the commissurotomy patient. Where Descartes has been criticised the most, however, is in his belief that animals are no more than automata, perceiving things *sans* sensation or without conscious awareness. He wrote, in the Fifth part of his *Discourse on the Method* (1969:139-140):

It is also a very remarkable fact that although there are many animals which exhibit more dexterity than we do in some of their actions, we at the same time observe that they do not manifest any dexterity at all in many others. Hence the fact that they do better than we do, does not prove that they are endowed with minds, for in this case they would have more reason than any of us, and would surpass us in all other things. It rather shows that they have no reason at all, and that it is nature which acts in them according to the disposition of their organs, just as a clock, which is only composed of wheels and weights is able to tell the hours and measure the time more correctly than we can do with all our wisdom.

While such a view might seem incongruous, particularly to an animal lover and in the light that we share a common ancestry with the chimpanzee - 98.4% of our DNA being the same - it does bring into focus the fact that we do not need to be aware of things for them to function successfully; we remain unaware of our heartbeat, breathing, and digestion. Indeed, many things function better without our conscious input; perhaps, if we did not consciously decide when and what to eat then we might even be healthier. The evolution from autonomous to conscious control involves the mid or hind brain as well as the hemispheres and cerebral cortex where the contents of consciousness lie.

Humphrey (1986:59) tells of the condition which Professor Larry Weiskrantz at London's National Hospital first called "blindsight", or recognition without conscious awareness, in 1974. Prior to this, sometime during the 1960's, Humphrey was himself involved in research at Cambridge in which he tried to teach a blind monkey, whose cerebral cortex had been removed in a study of the effects of brain damage in humans, to "see". At first the monkey, Helen, did not bother to use her eyes but after much patient encouragement and coaxing she slowly began to use them again after six months. The lower visual centres of her brain were still intact and over the following few years she learned to move deftly among furniture and to pick up tiny pieces of chocolate from the floor. Humphrey writes (p.58):

To a stranger she would have appeared to be quite normal. But I was sure that she was *not* normal. I knew her too well, knew how much effort her recovery had cost her, and how bewildered she sometimes seemed to be. It was as though eyesight now had an entirely different meaning to her. Perhaps, I thought, in one sense it did not mean anything at all.

Unfortunately, of course, the monkey could not tell Humphrey what she was experiencing and it was not until 1974 that Professor Weiskrantz began to work with a patient known to us by the initials DB whose primary visual cerebral cortex on the right-hand side of his brain had been removed because of a growth. As might be expected, it was found that DB could not see, through either eye, anything on the left side of his visual field. Professor Weiskrantz, believing that DB's brain was still somehow processing visual information, persuaded him to consciously override his knowledge that he could not see and to "guess" at what he might be seeing of the objects put before him if he could see. To DB's amazement he found that he was able to do so. He was able to

locate objects accurately which were in his blind field and even guess certain aspects of their shape. Yet he remained consciously unaware that he could see. Humphrey goes on to say that this phenomenon is not confined to vision but has been noted also with regard to the sense of "touch" where one woman, although not being able to *feel* anything, could tell which of her fingers were being touched.

It is difficult for the human psyche to accept the fact that so many things happen of which we are not consciously aware, especially when those things are happening to us. For Descartes, humans have privileged and incorrigible access to all their own thoughts which lie within a unified conscious state and constitute the essence of a non-physical mind. Our habit of mind tells us that *we* should conquer and be in control. After over half a lifetime of struggling to prevent myself from falling over when my autonomous nervous system lets me down, or when an unintended irregular movement throws me off balance, I still get angry with myself and find it almost impossible to accept that such things will inevitably occur no matter what I do. But, as I stated in Chapter Two - *Consciousness and the Self* - so many of our conscious thoughts seem to spring from areas of the mind over which we have no awareness. To this extent we have to concede that we are biologically determined, our freewill, inevitably, being limited to what can be controlled consciously. Our bodily rhythms and even our moods, to some extent, are controlled by hormonal/chemical secretions, and despite all attempts to put off the ageing process, we are incapable of escaping what has been described as the last enemy, death itself.

Our concept of Self, whilst understandably orientated around the human brain, is in danger of paying too scant attention to human beings as a whole. It is not the brain alone which acts but our whole being. As well as being dependent upon a nervous system

which sends electrochemical messages around our bodies, we are also equally dependent upon a cardiovascular system through which nourishment is derived and waste products expelled. Dr William Goody of The National Hospital in London pointed out that both in the cardiovascular as well as the nervous systems we find large *central* organs (heart/brain) to which special attention, emotional and scientific, have been directed (*The Lancet*, 7thSept.,1957:451-453). Both systems are interdependent, both nerve fibres and red blood cells producing effects by mediating biochemical reactions and, wrote Goody, the nervous system should be viewed as a circulatory system in the same way that we see the cardiovascular system. For example, the motor impulse from the brain along the efferent system which causes, say, a muscle to contract is immediately recreated by that very contraction and sent back along the afferent system. Illustrating his contention that the brain has occupied the chief position in controlling both mind and body only for as many hundreds of years as the heart held it for thousands years he quotes the following Psalms of David:

Ps. 51 - Behold thou desirest truth in the inward parts: and in the hidden part thou shalt make me know wisdom. Make in me a clean heart, O God; and renew a right spirit within me.

Ps. 45 - My heart is inditing a good matter: I speak of things I have made...my tongue is the pen of a ready writer.

Ps.147 - He healeth the broken heart, and bindeth up their wounds.

Goody continued:

The large central organ is almost always used for the mental point of the system, so that it is customary to consider the blood as flowing from the *heart*, through the circulatory channels, *back* to the heart, however miles of tube there may be, however many backwaters and traps there are, however many vital functions the blood is required to maintain outside the heart. Similarly, the brain is regarded as the chief organ of the nervous system to which the rest of the nervous tissue is an appendage, subordinate in functional importance, even though animals survive when only the "vital centres" of pons and medulla are intact. We regard the peripheral nervous system and spinal cord as the "message bearing" equipment of the brain.

Both the nervous system and the circulation system are engaged in the co-ordination of our limbs and the extent to which we function as people depends upon our ability to relate and communicate our inner lives to the outside world. Much of this ability, or at least the finer part of it, has come about through the evolution of the cerebral cortex. Had Descartes known about this then perhaps he would not have been so much at pains to draw such a clear and, perhaps, artificial distinction between animals and humans, and especially he would not have felt so threatened or been so defensive regarding the dextrous ability of monkeys. Perhaps, even the knowledge that we share over 98.4% of our DNA with the ape would have made sense to him. In the fourth part of his series on Time and the Nervous System for the journal of neurology - Brain (1965:756), in which he considers the significance of the human hand, Goody, referred to above, quotes F. Wood Jones (1946:301):

...it is not the hand which is perfect, but the whole nervous system by which the movements of the hand are evoked, co-ordinated, and controlled. In one thing

Man certainly shows marked anatomical advance from basal mammalian simplicity, in one feature every monkey and ape compares but ill with him, and that is the wonderful development of the cerebral cortex. What we are admiring in the multitude of actions of the useful human hand is the human cerebral perfection, not the bones, muscles, and joints that carry out the complex volitions.

I know from my own experience the sense of frustration when difficulty is experienced in getting one's hands to carry out one's intentions. Cerebral palsy has left me with more control over my left side than over my right. Doing things that require me to use both hands at the same time is extra troublesome; for instance, when using the air line to inflate my car tyres at the garage it is difficult simply holding the nozzle onto the tyre's pressure valve with one hand whilst trying to press the lever on the air control unit with the other. This makes me especially aware that there is more to action than simple willing (volition). Clearly, the distinction between other animals and us is the vast development of our cerebral cortex enabling us to have greater conscious control over our own lives and environment. We also have ~~clearer~~ clearer, not to say inflated, opinions as to what or who we are. Indeed, as we seek to sanitize and control more of nature by way of combating diseases it is as though our humane ideals are engaged in a war against biology, as Dawkins noted (see above). As more antibiotics are produced and over-prescribed in some countries, so bacterial strains become stronger and more diversified and we know that even should this problem be overcome then we would be faced with the alarming rate of the world's population growth which this century has gone from less than one billion to the current 5.6 billion and increases at the rate of a quarter of a million per day. The growth of the human race and more conscious control has given rise to deforestation and the current loss of three species per day. Hence, together with the

pollution that we cause, we face a situation where the oxygen supply will become less and the vegetable and animal life on which we rely for most medicines will also decrease. So much for our evolved freedom within a nature which produces the thorn along with the rose, the wolf to eat the lamb, the greedy to exploit the poor, and death to vanquish life. Yet, in a way God or nature has made the contest more interesting. By making us conscious and thus, as Schopenhauer would remind us, sufferingly aware, nature has given us the capacity for compassion and the ability, within our short lives, to choose the path we tread. What choice we make depends upon the integrity of the imagined Self. Some people might see this as a "spiritual" tension between the unbridled drive and the acknowledgement that total freedom may lead to chaos as when we give way to the impulse to jump a red traffic light. Although it is naive to think that the individual will always comply with socially imposed traffic lights, especially when s/he may stand to gain more in the short term by not doing so, maybe the benefits of a more just society will have some impact before it is too late. It is no part of the philosopher's role to make predictions. His/her discipline, perhaps, more than most others, makes it clear that the future cannot be foretold but knowing the facts can help to direct our compassion provided, being freed from our egos, we are orientated around a *centred* Self open to compassion. Hopefully, having the facts before us, we will make compassionate use of our highly developed brains to integrate the forces of nature for the good of all, not least our own. This would be "flourishing" in the truest Aristotelian fashion.

Section Two

Analogy in Computer Science

A further illustration of our confusion regarding the concept of Self have been the analogies we have drawn with man-made things. Just as Descartes used the analogy of

“clockwork” to describe the movements of the material body so many people since have used the growing developments both in mechanisation and, later, computer technology to describe what might be taking place in the neurology of the brain. Some theorists even turn the question on its head, suggesting that computerised robots might develop the same sense of “self” that we have. The current debate is between those in the camp of strong AI (Artificial Intelligence) and their opponents in that of weak AI. Strong AI maintains that computers and robots will eventually possess “minds” as humans do. Those opposed to this view, like the American philosopher John R. Searle, argue that computers are not capable beyond syntactical logic, that we cannot, for example, ever hope that they will be developed in such a way as to give them semantic ability - following logical rules is, he says, very different from understanding them. Human beings are not just processors of information but infer meaning from modal perceptions where, for instance, the acceptable interpretation depends upon the context in which it takes place.

Searle, in a paper – “Minds, Brains, and Programs” - published in the journal *The Behavioral and Brain Sciences* (1980), vol 3, pp. 417-457 introduced an analogy which has since become a classic and has been discussed, perhaps, by most people interested in AI. He imagines a Chinese Room in which he sits receiving problems posted through the letterbox. These problems are written in Chinese, a language that Searle does not understand. The answers, passed back the same way, must be in Chinese. To help him Searle has a manual, written in English, but showing, in Chinese, all possible problems and their corresponding answers. When he receives a problem through the letter box what he must do is find the problem shown in the manual whose Chinese characters match exactly and then push a copy of the corresponding answer back through the letter box by way of answer. In this way, Searle claims, he is doing what the computer does and

that is, by a process of matching providing the answer which syntactically follow from the question but without *understanding* either. For Searle, semantic ability can come only from consciousness which, for him, is confined to biological wetware and cannot be produced in computer hardware(1).

In the opposing strong AI camp we have people like Daniel Dennett with what he calls his Multiple Draft Theory of consciousness which he puts forward against what he dismissively calls the redundant Cartesian Theatre concept and describes as a von Neumann single bottle-necked accumulator (Dennett, 1991:431). Dennett sees his theory being in line with PDP (parallel distributed processing) in the world of computers and, using a computer analogy, he likens it to a “virtual machine”, a sort of evolved and evolving computer program which shapes the activities of the brain. He quotes (1991:101) the philosopher and psychologist, William James, who said:

There is no cell or group of cells in the brain of such anatomical and functional pre-eminence as to appear to be the keystone or centre of gravity of the whole system.

Dennett argues that there is no centre of consciousness; consciousness being diffused all over the brain. The brain is continuously processing information from the senses and forming ideas, or multiple drafts, most of which never come to “conscious” fruition as a final draft. Nonconscious assessment of Self and its environment is constantly taking place and of the many drafts produced only those appropriate to the demands of the moment come into consciousness for final selection.

In a discussion on BBC Radio 4, in the *Blue Skies* series chaired by the biologist, Stephen Jones, following the publication of Dennett's book *Consciousness Explained*, Jones together with Professor R.L. Gregory, Dennett himself, and the neurophysiologist at The Open University, Stephen Rose talked about the book. In a frank exchange of views, Rose expressed his unhappiness with Dennett's reference to the brain as some sort of super computer and went on to say that, in his view, the brain is not a computer in any sense in which a computer is thought of today; for him, computers deal with *information* whereas brains deal with *meaning*. Indeed, we should make the point even clearer by stating that brains deal with *ideas*, which are derived from *experience*, and it is these that make-up *information*.

The arguments of both Rose and Searle illustrate that the matching process used by the computer is akin to the way we should think of codes and not languages, as shown by Hacker (above), in relation to computers. The idea that the mind might stand in relation to the brain in much the same way that the program stands to the computer (Johnson-Laird, 1988:8) needs to be rejected rigorously. Apart from "applied" (see below) AI all that a computer is able to do is to *simulate* human behaviour and this is a far cry from being alive and consciously aware. Without such awareness modal reference with regard to context cannot be made. Johnson-Laird (p27), believing that mental life can be explained by computable theories, tells us that the main tasks of the mind are:

1. to perceive the world
2. to learn, to remember, and to control actions
3. to cognate and to create new ideas
4. to control communication with others
5. to create the experience of feelings, intentions and self-awareness

I do not argue that most of these things cannot be simulated but that they have no *meaning* for the computer/robot. As an introduction to Part 2 - Vision - of his book *The Computer and the Mind*, Johnson-Laird uses the following quotation from David Marr, who, before his tragic death from leukemia at the early age of 35, did some astounding research in theoretical neurobiology on vision and its artificial simulation:

...the true heart of visual perception is the inference from the structure of the image about the structure of the real world outside. The theory of vision is exactly the theory of how to do this; and its central concern is with the physical constraints and assumptions that make this inference possible.

Marr, who according to Francis Crick had become a partial convert to the AI approach to vision, believed that the main job that vision had to do was to derive a representation of shape; brightness, colour, texture etc being secondary. He devised a theory of a three tier visual system in which, writes Crick (1994:76), the *primary sketch* makes explicit some important information about the two-dimensional image, primarily the intensity changes there, and their geometrical distribution and organization. It deals, among other things, with edge segments, blobs, terminators, discontinuities, boundaries and so on. The *2½D sketch* makes explicit the orientation (and rough depth) of the visible surfaces and their contours, in a viewer-centred frame. The *3D model* representation describes shapes and their spatial organization in a object-centred frame. Crick continues (p.77):

This at least divides the visual task into separate stages and is of some use if only because it makes us realize how much has to be done in seeing something. It is unlikely to be correct in detail. The three stages are probably only a first

approximation—for example, colour, texture, and motion must be added to “shape.” There may be more than three stages and they are unlikely to be as distinct as his description implies. They probably interact in both directions. Nevertheless, his scheme does suggest the sort of processing that may be taking place when you see something.

In commenting on the above I wish firstly to draw attention to the difference between what Gelernter (1994:45) has called *cognitive* and *applied* AI. Cognitive AI is orientated towards discovering how humans do things; it concentrates on reasoning, problem solving, and language. Applied AI is not interested in how humans do things but in whatever method becomes available for accomplishing a given task. Nothing has been learned directly from applied AI about how humans think but a large degree of success has been achieved in the writing of software which will enable computerized diagnosing of disease, chess playing, and the synthesizing of sounds made by various musical instruments.

What must be taken into account is the severe restrictions placed upon any computerized equipment when it comes to making an *inference*. As with Searle’s Chinese Room, it is one thing to compare a specific group of shapes against a list of such shapes so as to find a match but it is quite another to *infer* a *meaning* when no exact match is available. Again, one can match a code so as to give a message in a foreign language but without someone who knows that language it is no more understandable than was the code itself. When Marr talked about the theory of vision being about drawing an *inference* from the structure of the image to the structure of the real world outside he also mentioned the physical constraints and assumptions that make it possible and, I believe, that without *conscious awareness* no computer will be able to *infer function* from *form*. This same limitation,

although not tied to the absence of conscious awareness, was conceded by Johnson-Laird as being the current situation with regard to computers after he and a colleague, George Miller, had undertaken an analysis of concepts. They found that an item, such as a table, cannot be recognized from its canonical shape since it does not have one. Accepting that an object can be recognized, by humans, as a table even though it is not like any other table one has come across before, Johnson-Laird writes (p.120):

We were forced to conclude that an artefact can be identified as a member of a category, not because of any intrinsic aspect of its three-dimensional shape, but because its form, dimensions and other physical properties, whatever they may be, are perceived as appropriate for a particular *function*.

But, we may ask, is the difference between human intelligence and AI simply down to being “consciously aware”? It must be, surely, that there is much more involved of which, at this stage, we simply do not understand. However, one thing that we may consider is the way that the conscious mind puts a problem into context and, working in its problem-solving mode, selects from possible solutions including those inferred by and thrown up from its subterranean or unconscious part. That our mental processes have access to such a wide range of possibilities, as for example of both “form” and “function”, is owing to the remarkable features of different parts of the brain whose memory functions are constantly storing information. Nevertheless, it is not just a case of laying-down and matching data as being able to *infer* relevance and meaning in varying situations where lateral, rather than logical, connections are required.

Interestingly, Johnson-Laird claims that a leading British neuropsychologist, Elizabeth Warrington, and her colleagues have found a “double-dissociation” between brain

damaged patients who, on the one hand, can perceive the three-dimensional shape of an object but are unable to discern its function, and those on the other, who are able to discern the function even though they have difficulty perceiving its three-dimensional shape. The first instance occurs in patients with a lesion of the parietal lobe in the left brain hemisphere, while the second involve a right parietal lobe lesion. (Compare Sperry's commissurotomy patients - Chapter One - *Neurology of the Self*.)

There is a difference, of course, between matching an object with an obvious function and making an *inference* about, say, an unusual table which one has never seen before. *Inferencing* is something that the human brain does *unconsciously*, for example, although our perceptions occur separately we do not, as it were, see the joins; everything appears to flow. Again, our brains make up the hole that would otherwise occur due to our blind spot where the optic nerve joins the eye. The psychology of vision has several examples that demonstrate the brain's Gestalt struggles to make sense of what is seen by trying to separate "figure" from "ground". One of the best known ones shows a number of differently shaped black blotches on a white background. When looking at this for the first time nothing meaningful is seen but then the "figure" of a dalmatian dog begins to emerge from the "ground". Similarly, there is a picture which shows both a left and a right profile *or* a vase centred between what had previously been seen as the two profiles; these alternate as one continues to look at them in the same way as the Necker cube changes its shape. Such an ability, I would suggest, requires a flow between unconsciousness and consciousness and, as Gelernter, referring to an "observer" Self, says (1994:161):

...despite the lack of any actual observer, *the brain is nonetheless capable of creating the illusion of an observer*. The “mystery of consciousness” inheres exactly in this: that our brains have the knack of creating an “observer illusion” for us.

Here I understand Gelernter’s reference to an actual observer or an observer illusion to be a psychological construct as opposed to the strict Self or person observed by others. He holds that the brain is “wired” to create an imagined Self just as it tries to make sense of the world given by the senses, even to filling in what *seems* to be missing - if we formed an imaginary equilateral triangle on paper by placing three black discs, each with a 60 degree sector cut out facing its centre, then our brains would create the illusory boundaries of a triangle. It is this illusion that Dennett wants to demolish but as I have tried to show throughout my thesis there are certain intangible things, such as, our representation of the Self and our values of goodness and love which should be cherished for their human survival value, lest, in our desire to be independent of our nature we destroy some of the very things on which, unknowingly, we depend. We may be able to demolish the Self in the laboratory of a philosophical think-tank but our everyday lives, I would suggest, would be diminished by doing so. The Self is a construct of the psyche to which both unconscious and conscious input contribute. I am quite satisfied that whilst I, obviously, realise that I have cerebral palsy which causes me one or two problems, this fact has no input to the personal persona, i.e. my imagined Self, which my brain creates for me and so, in this regard, I suppose that other people are more aware of it than I am (2). Admiring philosophical and scientific enquiry as I do, I am reticent about making a claim to the effect that they are going too far; after all, it would be unrealistic to try to limit human curiosity. Nevertheless, I am of the opinion that there needs to be a division between knowledge that results from such enquiry and its application to everyday life which takes into account the nature of the beings we,

unavoidably, are. So many of the benefits that science could provide to the world can not be applied because of political unrest, human greed, alienation and poverty. Instead, the fruits of science are being used destructively to equip for human conflict and war. The fruits of knowledge are being squandered because of a lack of wisdom-the wisdom to live within our unchangeable biological and neurological condition while benefiting from research which is able to go beyond such restraints. Surely, whilst we would be rid of self-centred egos, we do not require a philosophy of *no self* so much as one to create a *centred Self* - see Chapter Four - *Morality of the Self*.

In his book *The Muse in the Machine*, Gelernter argues for what he calls the *cognitive spectrum*, the whole idea of which he freely admits to being apostasy coming, as it does, from an establishment computer scientist (1994:35). The Spectrum covers the whole range of human experience from what he refers to as *high-focus* to *low-focus* thoughts. High-focus thoughts are centred upon the “logical” process which we would associate with the left hemisphere of the brain, whilst low-focus thoughts are those centred around the creative processes of lateral thinking that are associated with the right hemisphere. Emotion, claims Gelernter, is right at the heart of the cognitive spectrum; thought is not a matter of brains alone but is inextricably linked to bodily states which feed and help define it. We do not think solely with our brains but with *both* our brains and our bodies. He writes (pp.46-7):

...emotions are not a form of thought, not an additional way to think, not a special cognitive bonus, but are fundamental to thought. If we subtract emotion, the only part of the cognitive spectrum remaining is the radical high end-and to identify this narrow high-focus band with thought in general is absurd. Emotions are fundamental to thought; but the body, inconveniently enough, is

fundamental to emotions. After a bit of reflection it becomes inescapable that you don't *just think with your brain*; you think with your body too-this holds in the sense, roughly speaking, that a violin uses its strings to produce a sound; but take away the sounding board-the instrument's bridge and its body-and the sound you wind up with is a thin parody of the real thing.

So crucial is this interaction between our bodily senses and our brain that Gelernter suggests that our very concept of a Self as an "observer", so vividly captured in medieval paintings that depict the moment of death when the soul leaves the corporal body in the form of a miniature body, is modelled closely on the relationship between the body and the external world. This *introspecting* Self is endowed with all the capacities that the body uses in exploring the world. The relationship between the Self and its thoughts is much the same as that between the body and the external world; to *see* is to *understand*, ideas *move* or *touch* us, we say that things *smell* wrong or do not *sound* right and that we want a thing so much that we can almost *taste* it. Gelernter quotes Coleridge (p184):

I seldom feel without thinking, or think without feeling.

It seems to me that we should be able to traverse the cognitive spectrum between high and low-focus thoughts in the process of individuation and that there should be a blurring of distinction between both just as in quantum physics there are several possible transitional realities expressed "virtually" which conscious attention fixes in a permanent state. The low-focus creative state which gives us "art" also gives us fresh ideas which can be realised scientifically in the state of high-focus thoughts. Our world increasingly lives at the high end of the spectrum but its achievements are not being shared "imaginatively" and "creatively" through the inclusion, rather than the rejection, of the

lower creative and compassionate spectrum end. For balance, taking into account the nature of beings we are, we need the whole, and not just part, of the spectrum—we are brain *and* body, thought *and* emotion, conscious *and* unconscious, and high *and* low-focus, all of which has a part to play in a unified, or centred, Self and a unified, or centred, society.

Towards the end of his book *The Computer and the Mind*, Johnson-Laird formulates the following syllogism (1988:385):

Human beings are animals (Darwin)

Animals are machines (Descartes) *therefore*

Human beings are machines (La Mettrie)

He maintains (p.388) that there is nothing that we know for certain that renders it impossible to equip computers/robots with the mechanisms needed for motives, internal sensations and consciousness. Whilst I am, of course, not able to refute this with certainty I do maintain that its unlikely since I believe that human beings are dependent upon their unique biology and neurology. It is their combination that makes us what we are. My own view would be:

The idea of *centred* (individuated) Selves is essential to humane beings

Humane individuals are essential to a humane world *therefore*

The idea of *centred* Selves is essential to a humane world.

In this chapter I have looked at the psychological, or what I call the “imagined”, Self. This Self that we are acquainted with, as opposed to the “strict” self, or person, that

others identify us as being is, like the strict self, subject to change and it changes not only in response to the passage of time but according to how we think about ourselves. Alluding to both the world of neurology and that of computers and information technology I have drawn a distinction between what is a consciously formed intention establishing and creating who we are and what is merely “goal-directed”. In line with one of the main themes of this thesis my argument has demonstrated that, while we are at liberty to create various “imagined” Selves, e.g. egotistical or self deprecating, what I call the “centred Self” is most beneficial for us both as flourishing individuals and contributors to the humane world to which we would belong.

Chapter Six

Spirituality and the Creative Self

In this chapter I want to look at the way in which our spiritual vision expands our consciousness and enables us to become centred Selves as, creatively, we resolve the conflict between our conscious and unconscious being. By means of such a vision, I will argue, that we are capable of adopting those values which transcend our ego-driven desires and are justified by their support of our collective and individual survival.

Many of our most treasured values, values upon which I have maintained our very survival, not to mention our flourishing, depends, such as personal integrity, peace, joy, goodness, love, compassion, wisdom, freedom, justice, mercy, courage, generosity, loyalty, patience, kindness, self-control, etc. are transcendently necessary in their support of life and are themselves supported by religion which itself is supported by a belief in God. Unfortunately, the latter is subject to more philosophical doubt than Descartes was prepared to admit. Therefore, such values must be examined both phenomenologically as we encounter them in our experience of the world and in themselves as they transcend our wishes, desires, fears and ambitions. They should be seen as worthy of being accepted on their own merit as we realise our responsibility in shaping what we are to become. Our brains and nervous systems automatically filter the environment of information so that we do not perceive what is not needed for our biological survival and from this we construct our perceived phenomenal, or outer, world. However, what we overlook from a biological standpoint may very well be crucial to our inner lives and reflect the way we see and conduct our outer lives.

St Augustine of Hippo (354-430), following a lengthy religious and philosophical search described in his *Confessions*, came to the conclusion that human instinct creates a desire to praise God(1). Indeed, according to Augustine our hearts (minds) find no peace until they rest in Him(2). For Augustine the finding of such peace, which was neither dependent upon sensate nor environmental influences, was of far greater value than the pleasures of the senses that he had indulged and that had to be subordinated if he was to achieve it. In the twelfth section of his *Confessions* he tells of his procrastination in the realisation that the decision had to be taken. In circumstances which read like the account of a nervous breakdown followed by conversion, he tells that after repeatedly deferring until *tomorrow* he heard what seemed to be the voice of a child saying, over and over, "Take it and read, take it and read". At first, he thought that it was children playing but not being able to recount any children's game in which this chorus was chanted, he eventually took up his Bible and read in Romans 13:13-14

...let us conduct ourselves becomingly as in the day, not in revelling and drunkenness, not in debauchery and licentiousness, not in quarrelling and jealousy. But put on the Lord Jesus Christ, and make no provision for the flesh, and its desires" (RSV).

This was enough, he tells us, for as he reached the end of the sentence it was as though the light of faith "flooded his heart and all the darkness of doubt was dispelled" (Dowley,1977,200). This is what psychologists, like Laing(1967:113), have referred to as *ego-loss* or *transcendental experience*.

Whether or not we believe in an Absolute God is a matter for faith; neither cognitive science nor the five senses at our disposal can prove it one way or the other; it is more to do with transcendental ontology than with transcendental values. Nevertheless, transcendental ontological viewpoints(3) can, and probably do, influence the

transcendental values that we adopt but we need to treasure such values, even in the teeth of ontological doubt and feelings of absurdity, for their own sake as having positive survival implications. Undoubtedly, faith in a caring God does lend buoyancy and impetus to the way in which we live our lives but, unfortunately, the human condition has its moments of despair, when faith seems to be too difficult, as well as its moments of inspiration and elation when our minds are at peace and we are content with our concept of Self and our place in the world. At times of ambivalence when conflicting thoughts assail us and we see that nature is at once both beautiful and cruel, wonderful and terrible, then transcendental values need to be able to stand alone as providing resources which will best enable us to survive and flourish. Transcendental values are what give *added value* to our biological lives bringing with it a spiritual dimension and anchoring an inner life from which we confidently communicate with others.

What does seem relevant to my research into the concept of the Self, approaching from a neurological viewpoint, is the brain's capacity to create the world in which we live. As Schopenhauer makes plain right at the outset of his *The World as Will and Representation* (1969:3) "The world is my representation"; both what you perceive and the values you adopt construct the only world you know. I must admit that it is very strange, almost unnatural or counter-intuitive, for us to appreciate the extent to which our brains filter, organise and arrange sense data without us being so much as aware of what is going on. To take just one simple example, if we became immediately consciously aware of what appeared on the retina *before* our brains had processed it, we would see the world upside down because this is how it is presented by the lenses of our eyes where the reflected light rays meet and cross over. Experiments have taken place in which volunteers have worn special glasses that reverse this process so that they see things upside down and

backwards. Soon their brains have adjusted and they begin to see the world “normally” again. This is, indeed, amazingly speeded up evolutionary adaptation unique to the brain. After a few weeks, however, when the glasses were removed, they saw everything upside down and had to learn the vision they had previously taken for granted (Pirsig, 1991,120). Of course, the term *upside down* is meaningless biologically; it is not that our brains turn the image around as one might do to a photograph since, as Ornstein (1975:42) tells us, we never do see the world *right-side up* but our brains construct what we become consciously aware of from selected input. If the visual input is inverted then the learned correspondence between input and objects is disturbed and it takes time to learn the new correspondences. Our brains are wired to make *sense* of the world as, for example, they try to make sense of alternating profiles, as in a vase/face shape or a Necker cube (see Chapter Five - *Illusion and the Imagined Self* - Section Two).

Along with making sense of the world the brain's own process of constantly re-wiring itself is aided by every thought as new dendritic pathways are created linking up various neurons (again see Chapter One - *Neurology and the Self*). By giving children our time and enriching their experiences we help to stimulate the growth of dendritic connections. The electromagnetic force of thought creates an electrochemical process in which thoughts are materialised. As Einstein demonstrated, energy and matter are both expressions of the same thing. Baron (1990:181) writes:

Quantum physics states that the basic building block of all matter is electromagnetic wave energy.... if matter is broken down to the level of electrons and even more basic components, the ultimate form will be electromagnetic (light) wave energy. In other words, electromagnetic waves give rise to atoms, which ultimately we experience as matter.

The selective process of our brain and nervous system is demonstrated by the visual field of consciousness which responds to radiant electromagnetic energy in the visible spectrum which is just a tiny part, between 400 and 700 billionths of a meter, of the entire energy band ranging in wavelength from less than one billionth of a meter to more than 1,000 meters. In addition to electromagnetic energy, many other forces arrive at the eye - pressure, mechanical vibrations in the air, gaseous matters, etc - but the eye has evolved to be ignorant of these (Ornstein, 1975:36). Our sensory system as a whole has evolved to disregard information such as X-rays, infrared, radiation and ultrasonic sound. The function of the brain and nervous system is to protect us from an overload of information to perceive and remember. This function sometimes malfunctions in some cases of schizophrenia where the person's centre of consciousness is pulled between multiple inputs all vying for attention. Ornstein cites Huxley's *The Doors of Perception* where - following his experiment with the hallucinogenic drug, mescaline, which produced similar effects to those of schizophrenia - he says that we are Minds at Large but that as animals our concern is biological survival for which purpose Mind at Large has to be funnelled through the reducing valve of brain and nervous system.

Also, as we emerge from childhood, we lose the elasticity of mind which received every new stimulus with a freshness which our growing conceptualizing and categorizing blunt. At the end of the introduction to his book, *The Gnostics*, which accompanied his television series, the writer and television presenter, Tobias Churton, says:

Naturally I would never have embarked upon the project of bringing the Gnostic experience to a hungry public if I was not convinced that an understanding of the subject could "change the world". All it takes to do so is to imagine the world differently. That will certainly change your world. The integrity of the vision of your world is worth living for. Television and films and

things may seem important but they are not “minds”. That’s what you’ve got that no work of art can reproduce...I wrote the section called “A Mystery Tour” in Part Two with the idea in mind that the reader may wish to visit the places mentioned within and perhaps relive the events described, in the imagination - the true home of reality. This you knew when you were a child. Know it again (4).

Later on, Churton tells us how Giles Quispel, a professor at the University of Utrecht, showed his translation of the *Gnostic Codex 1* (now known as the *Jung Codex*) to the psychoanalyst, Carl G. Jung at the latter’s Swiss home at Lake Bollingen. Jung said, “I have worked all my life to know the psyche - and these people knew already.” Quispel says, “And it is true that the *Gospel of Truth* [the most important and the most beautiful document in the *Jung Codex*] is such a vivid illustration of what man’s predicament is according to Jung, that it could have been a falsification by a Jungian, which it is not!” Jung believed that every man needs a myth by which to live, and that if he does not appear to possess one, he is either unconscious of it, or else sadly alienated from the roots of his being. Apparently, Jung was fond of saying of patients, “Thank God he became a neurotic!” What he meant by this is that depression or whatever symptoms a person suffered from had had positive affects in compelling him/her to look inward (Storr, 1989,192). It seems that the case of Augustine, above, may have been such an instance. According to Storr (p.199), Jung began to think of religion as a personal matter which had little to do with accepted creeds. Although not being able to subscribe to the faith in which he had been brought up, his father being a church minister, he continued to believe that individuals could neither be happy nor healthy unless they acknowledged their dependence upon some higher power than that of the ego. During a period of

adolescent doubt, recalled in his *Memories, Dreams, and Reflections*, Jung read Schopenhauer of whom he wrote:

Here at last was a philosopher who had the courage to see that all was not for the best in the fundamentals of the universe. He spoke neither of the all-good and all-wise providence of a Creator, nor of the harmony of the cosmos, but stated bluntly that a fundamental flaw underlay the sorrowful course of human history and the cruelty of nature: the blindness of the world-creating Will.

This unpanglossian approach appealed to Jung, and Storr, himself an eminent psychoanalyst and prolific writer, continues to say that a good deal of Jung's thought seems to be directly derived from Schopenhauer who considered that individuals were the embodiment of an underlying Will which is outside space and time. In Storr's opinion, Jung is endorsing a similar view when, at the beginning of his autobiography *Memories, Dreams, and Reflections*, he writes, "My life is a story of the self-realisation of the unconscious". Borrowing from the Gnostics he used the word "*pleroma*" to express a spiritual realm which transcends consciousness. In the *pleroma*, all is one. There is no differentiation between opposites like good and evil, light and dark, time and space, or force and matter. Jung's belief in the unity underlying all existence led him to believe that physical and mental, as well as spatial and temporal, are human categories imposed upon reality which do not accurately reflect it. What is significant, however, is that whereas Schopenhauer thought that the way to obtain deliverance from the bonds of individuality was by the ascetic denial of the Will, Jung believed in the affirmation and realisation of individuality, i.e. the process of individuation (See Chapter Three - *Human Nature and the Self*). Here the centre, true Self, is shifted away from the id-driven ego and holds the ring between consciousness and unconsciousness. This is partly the kind of deliverance for which Schopenhauer longed - freedom from the thralldom of insatiable

drives which, he thought, had their origin in the Will. It is as though, with the same goal in sight, Schopenhauer believed that there was no other option but that the intellect should ride and, thereby, seek to control the Will from the perspective of one struggling with a team of wild horses, whilst Jung thought that more would be achieved from the perspective of one handling a team of broken-in and, therefore, more manageable horses. In the final paragraph of his book, *Human Aggression*, Anthony Storr (1968:122) writes:

I would like to make a plea for further research. We are threatened as a species by our own destructiveness, and we shall never learn to control this unless we understand ourselves better. Throughout history, man has been bedevilled by ignorance about his own nature, and has filled the gap by Utopian fantasies of what he wishes to be like rather than face the reality of what he is...our lack of knowledge is still appalling. There is so much that we do not know, so much that we could find out. If man is to survive, we need to know all that we possibly can about ourselves, our development, our needs, our intuitions, our advantages and our failings. Man, though successful biologically, is in many ways an unsatisfactory species, but whatever he is, we have to live with him.

Whilst man finds within himself a nature which is often conflictual, he also has a strong desire to resolve it. This tension has always been the spur to creativity and change. Armstrong (1993:36) tells us that during a period which has become known as the Axial Age, between 800 and 200 BC, people in all the main regions of the civilized world created new ideologies that have continued to be crucial and formative. For reasons that are not fully understood religious systems developed along parallel lines reflecting the new economic and social changes that were taking place. In a new atmosphere of commercial prosperity power began to move away from kings, priests, temples and

palaces and go toward the market place. Each region developed a distinctive ideology to cope with the problems brought about by these changes: Taoism and Confucianism in China, Hinduism and Buddhism in India, monotheism in the Middle East expressed in terms of Zorasterianism in Iran and the revolt, against pagan practices and social injustice, of the Hebrew prophets such as Isaiah, Amos, Hosea, and Jeremiah in Israel. It is interesting to note that the concept of God influenced the Hebrews to develop the first known system to aid the poor. In the Book of Deuteronomy (15:11,NRSV) we read, "Since there will never cease to be some in need on the earth, I therefore command you, 'Open your hand to the poor and needy neighbour in your land.'" Even though he later spent 45 years preaching Enlightenment to the people, Gautama Siddhartha who became the first Buddha - The Enlightened One - was at first tempted to enjoy his "bliss" or transcendence by keeping it to himself. Indeed, some of his later followers during the first century BC seem to have forgotten that it had been Gautama's compassion that had caused him to overcome his initial desire to simply enjoy the fruit of his six years search as they retreated into monasteries to commit themselves to personal devotion known as *bhakti*. About this time, however, a different expression of Buddhism arose in which followers, *bodhisattvas*, were willing to put off their own *nirvana*, sacrificing themselves for the sake of the people. Little wonder that Schopenhauer saw the influence of India in the teachings of Jesus (See Chapter One - *Neurology and the Self*).

Within an Eastern tradition like Hinduism we find the belief that individuals can merge with God whereas in Western tradition, such as Christianity, the emphasis is more on the relationship between the Creator and the created. The possibility of divine incarnation within living memory demonstrates a non-Western way of thinking about religion. For example, the female Hindu saint, Sri Anandamayi Ma, was born 30th April, 1896. She was respected for her knowledge of the vedic tradition, both its scripture and

philosophy. As a mentor of two Indian prime ministers, Nehru and his daughter Indira Ghandhi, her simple teaching was:

...remember God as much as you can but at least 10 minutes each day, this being the most important thing you can do; None of life's pleasures bring lasting fulfilment but rather pain (reflections of Schopenhauer); Laugh as much as you can and do it with your whole being; God's grace flows perpetually, all you have to do is be receptive to it; Above all, desire the knowledge of God. Hindus believe that what was discovered deep within the consciousness of the enlightened ones, the Buddha, Christ, Mohammed, or Krishnamurti can be discovered by everyone. Spiritual practice aims to transform the individual from within and give lasting peace. There must not be incongruity between external actions and inner thoughts as when, even though we refrain from physical violence, we burn with anger within (Bradbury, 1996).

All our external behaviour is moderated by internal processing strategies which we form during our development by putting a series of internal and external experiences together, by forming opinions and beliefs, or in making decisions. As the above illustration shows, although there may be inner conflict in need of resolution, external actions result only from whichever is the stronger. In a section called Faustian selves, in his book *The Multiple Self* (1986:9-11), Elster quoting from Part 1 of Goethe's *Faust* "Two souls, alas do dwell within his breast" points out that people are often commonly torn between different desires in which they want to do several things that, as a matter of fact or logic, are mutually exclusive but that it would be absurd to elevate all such cases to the status of "split selves". Augustine's conflict between wanting both to satisfy his sensual desires and to have peace of mind came to focus and resolution in his commitment to change and centre his mind on Jesus Christ. This again, I see as a process of Individuation in

which our beliefs attempt to unite conscious and unconscious processes or where Sartre's *en soi* enjoys momentary harmonisation with *pour soi*. Sartre's passion for freedom almost sabotaged his equal passion for justice which, it seems to me, we cannot have without responsibility. The young's urge for freedom from all restrictions and a return to nature does not seem so attractive, if things go wrong and plans do not work out as expected, when there are no structures on which to fall back. Structures civilize our baser instincts. If, for example, we do not bother to institute laws or, at least, codes of conduct that protect the vulnerable in society then they will not be in place should we, in this uncertain world, ever need them. In his trilogy of novels under the all-embracing title, *The Roads to Freedom*, the central character, Mathieu Delarue who teaches philosophy, never finds the freedom that he most earnestly desires. In the first novel, *The Age of Reason*, Delarue evades his responsibility in respect of the woman, Marcelle, who is pregnant by him but he cannot overcome the dissatisfaction he feels with himself. Nor is the situation improved by him again trying to evade responsibility by enlisting in the war in the second novel, *The Reprieve*. When, in the last novel, *Iron in the Soul*, Delarue breaks with all the final vestiges of civilized behaviour, flying in the face of all prohibitions of a dying culture based upon the Decalogue, his final *freedom* is that from *responsibility* as he becomes a P.o.W. We may be "condemned to be free", as Sartre thought, but it is a freedom limited by our own biology, neurology, psychology and the input senses at our disposal. Existentially, while being is becoming in that we choose what we are to be, we remain unfree when our lack of knowledge and power prevents us from doing things, e.g. no matter how much a homeless person may want a warm meal and comfortable bed for the night, his lack of resources probably prevents him from having them. A desire for *total* freedom may lead to the undermining of the very superstructure on which we unknowingly depend resulting, not in freedom, but in chaos. *Maximum* freedom seems to be a more desirable aim for here we would work with

absolute boundaries prescribed within the knowledge available at the time. Taking these things into account - our human condition - it would seem to be pragmatic if we were to accept those restrictions that lead to, rather than curtail, those freedoms we most treasure. For some, like Augustine, this means subjecting their free-will to the aged wisdom that they have grown to perceive and respect as divine guidance - it is not so much a restrictive freedom, as an enabling one.

Although Wittgenstein (*Tractatus*, 4.116) thought that generally, whilst “everything that can be thought at all can be thought clearly and everything that can be put into words can be put clearly”, when we contemplate religious and moral ideas we must face the truth that one of the problems of philosophy is that, given the information provided by our senses, our attempts to express our thoughts about it is limited by language. Indeed, in these areas Wittgenstein (*Tractatus*, 6.522) conceded “There are, indeed, things that cannot be put into words. They *make themselves manifest*. They are what is mystical”. Another view is that our thoughts are already in an unspoken language whose grouped elements are replaced by single words to be uttered. Not surprisingly, as in any translation, they lose something in the process (5). Huxley (1954:52) tells us that:

We can never dispense with language and other symbol systems; for it is by means of them, and only by their means, that we have raised ourselves above the brutes, to the level of human beings. But we can easily become the victims as well as the beneficiaries of these systems. We must learn how to handle words effectively; but at the same time we must preserve and, if necessary, intensify our ability to look at the world directly and not through that half-opaque medium of concepts, which distorts every given fact into the all too familiar likeness of some generic label or explanatory abstraction.

Penrose (1991:480) tells us that one of the major points that Hadamard, the distinguished French mathematician, made in his study (published 1945) of creative thinking is an impressive refutation of the thesis, so often still expressed, that verbalization is necessary for thought. Hadamard maintained that words were totally absent from his mind when really thinking. He wrote that even after reading or hearing a question, every word disappeared the moment that he began to think it over, and that he fully agreed with Schopenhauer when he wrote that “thoughts die the moment they are embodied in words”. In a letter on the subject that Hadamard received from Albert Einstein, Einstein wrote:

The words or the language, as they are written or spoken, do not seem to play any role in my mechanism of thought. The physical entities which seem to serve as elements of thought are certain signs and more or less clear images which can be “voluntarily” reproduced and combined...The above mentioned elements are, in my case, of visual and some muscular type. Conventional words or other signs have to be sought for laboriously only in a second stage, when the mentioned associative play is sufficiently established and can be reproduced at will.

Writing that the geneticist, Francis Galton, also felt words to be a drawback, Penrose quotes him as saying “...I have to translate my thoughts into a language that does not run very evenly with them...” The musician, Paul Robertson tells us that the composer, Mendelssohn, once said that “music is too precise to be expressed in words” while the biologist, Richard Dawkins (Bragg, 1996) says:

Our brains are isolated from each other. Your brain is in your skull, mine's in my skull and there's a limited capacity to interact between them. Music, it seems to me, is potentially a very powerful way in which it's almost as though nerve impulses were rushing from the musician's brain to the listener's brain; its

happening in the time domain; its very rich. Bird song is often represented as though it were transferring rather mundane information about the sex and species of the singer. I'm associated with the view in biology that bird song is much more like music and that something like a nightingale's song or a blackbird's song is a very subtle, almost rhetorical, kind of manipulative hypnotic influence of one bird on another and I suspect that primitively music played the same role. You see it in the hypnotic drum beat of primitive peoples and the role that music plays in primitive ritual, and even, most of us as we wander around the world, I think I'm not at all unique in finding that all the time I'm tormented by a tune, not great music, it will just be a tune that's going on and on around in my head with a kind of mathematical pattern that I can't get rid of until the next day when it'll be a different tune.

Our language is not always the representation of our thoughts that we could wish but more an approximation, hence, our many misunderstandings. If only those nerve impulses that Dawkins imagines rushing from the musician's brain to those of the listeners' could be down loaded, computer-style, when it is crucial that the verbal or written message received should be precisely the same as that thought to have been sent. But we are not machines and all human relationships are founded on the communication of, not just intellectual thought but, emotion in which music plays a vital part and shows us how intertwined it is with our neurological make-up which is compatible with the simple tempo relationships we prefer. There is a very intimate and complex relationship between words and music and it seems that we have evolved to respond to the musicality in language. The composer Janáček used to collect sentences which he would set to music and then discard the words and use the music as the basis for his compositions. His *Spring Quartet No.1* expresses a tale in which a man murdered

his wife because he could not share her love of music. Emotions reflect the way we process time at the most basic level. David Epstein, Professor of Music at The Massachusetts Institute of Technology, says that music captures time, makes it unique, structures it in a unique way, and, in doing so, reveals to us a great deal about ourselves and the experience of living. It also gives us the experience of movement and motion which is one of the most important aspects of life itself. His research of different cultures confirms that the ultimate controlling influence is pulse - all music embodies motion of the same sort. Motion and emotion are deeply tied together. Emotion in Latin is *exmotus* which means "stemming from a sense of motion" (Robinson, 1996).

When it comes to the realms of religion and morality, as Pears writing on Wittgenstein's philosophy (1971:56-8) points out, "there is no Archimedian point outside all factual discourse on which the philosopher can take a stand and still speak in factual terms". This is not to reject either religion or morality but to place them outside the factual discourse whose source of information is via our senses. Whether, having placed them there, we must accept that philosophy can never make a constructive contribution towards providing solutions to some of the problems we face, using Wittgenstein's much quoted assertion that "philosophy leaves everything as it is", I believe we have no option but to try. Given that "we feel that even when all possible scientific questions have been answered the problems of life remain completely untouched" (*Tractatus*, 6.52), I do not believe that a (relative) sense of the world must lie outside the world itself nor, therefore, that we should not argue for honest, creative, attempts to offer constructive opinion. Since people do make *subjective* sense of the world for reasons of personal survival, I believe that it is the philosopher's vocation to explore ways in which we escape our moral vacuum, survive and, even, thrive and flourish both as a species and as individuals (6). From our present position, however, there does not seem to be another

side to the limit of factual discourse, there being no sense data, we are always in danger of arriving at nonsense. Trying to plot that other transcendental side does, indeed, seem like endeavouring to plot the curvature of space itself which, without the logical points or planets of sense data as a guide, would seem to be impossible. Yet, venturing into the kind of abstract thought which led Newton and Einstein to both map objects in space and account for their trajectory, there must be the possibility of postulating the existence of unsensed points from our observation of how personal and species-specific space bends in relation to events, that is, seeing what consequences flow from our actions and adjusting our behaviour accordingly.

Since Jung, many people have come to realise that they can have a religious attitude in which they can trust something within themselves, call it their own personal integrity, or trust in some *higher* power, without having an orthodox faith - Jung, himself, had soon become disillusioned by conventional religion. Unlike Freud who had written in his book on religion the famous last sentence, "No, our science is no illusion but an illusion it would be to suppose that what science cannot give us we can get elsewhere", and was mostly concerned with early childhood experiences and their knock-on effects for later life, Jung concentrated on the essentials for the latter half of life (7). He was primarily interested in the process by which one comes, in later life, to fulfil those potentialities which, earlier in life, one had had to neglect because of the force of circumstances. Recognising that just as a round physical object has to have a centre, so he saw that the development of a fully rounded, mature personality had to have a centre of some kind and that, for him, that centre was intimately bound up with religion. In the now famous interview with John Freeman toward the end of Jung's life, Freeman asked, "Do you now believe in God?" to which Jung replied, after a long pause, "It's difficult to answer. I know. I don't need to believe. I know". Obviously, that knowledge cannot be verified

any more than it can be refuted but what Jung had observed was that when his patients had a focus in the centre of their lives they did so much better. He wrote (1958:24):

The individual who is not anchored in God can offer no resistance on his own resources to the physical and moral blandishments of the world. For this he needs the evidence of inner, transcendent experience which alone can protect him from the otherwise inevitable submersion in the mass. Merely intellectual or even moral insight...lacks the driving force of religious conviction, since it is merely rational (8).

Humphrey (1995:15) writes that several recent studies have specifically compared the mental health of religious believers with that of non-believers, and found that the former show many fewer symptoms of psychological disturbance. He quotes a publication in 1992 in which John Schumaker cites his own study of a group of undergraduates at an American university where he found that 45 per cent of the irreligious individuals had more symptoms of mental disturbance than their religious counterparts. "Although such correlational data may have to be interpreted with caution", writes Humphrey, "they all point to the remarkable effectiveness of supernatural belief systems in combating feelings of worthlessness, lifting depression and calming fears."

It is this transcendental centre - call it God or just my own integrity - around which personality, personal identity, revolves. It is here I derive a positive stance and know the *mind-in-itself*. Just as Plato used the shadows on the wall of a cave to explain the phenomenological world, so I have chosen to explain our projected identities, especially in the cases of neurological impairment, as reflections seen through a mirror which, because of distortion, impairs the image. It is as though the *noumenal* existence, or mind-in-itself which unknowable to others, remains intact while the phenomenal projection,

perceivable by others, is grossly distorted. The crossroads at which personal identity is forged is where the conscious and the unconscious mind come together. Here traffic goes both ways and the other feeder roads of experience become part of the flow, creating and recovering memories. The process of individuation helps to hold the centre together so that personal identity, mind-in-itself, is not shattered along with its phenomenological mirror image. In this respect, the problems and frustrations faced by the neurologically impaired are the same as those faced by everyone else except for their intensity and gross exaggeration. It is the resilience of mind in maintaining its own integrity, despite the intensity and frustration felt in the face of one's restricted ability to communicate, that I am studying so as to better understand how personality holds together. Many things make up this personality and all revolve round a centre of focus which, like the hub of a wheel, transmits strength to its perimeter. Bennion (1991:125) paraphrases from *Let There Be Love* by Gunnel Enby, a Swedish young woman living in an institution for people with disabilities where sexual intercourse is banned, "If a person's faith in their own lovableness is denied by ignoring or dismissing the sexual part of their personality, the whole process of rehabilitation is undermined". Such pressure, brought to bear by unenlightened public opinion can only be tolerated and fought against from a centre which, in spite of everything, holds together. Indeed, as Churton said (above), "The integrity of the vision of your world is worth living for" since, as the wisdom of the Book of Proverbs tells us, "when there is no vision the people perish" (29:18 AV).

It is our *vision* of the world that transcends our phenomenological representation and empowers the mind. The phenomena are created from filtered sense data which our vision transcends by widening the reducing valve of experience. This we do when we are aware that there are more things in this world than is instantly apparent. Looking

beyond mere biological survival, we transcend to a level of expanded consciousness which, along with language, has the power to provide experiences beyond those of our animal origins.

Illustrating just how powerful the human mind can be, Dr Vernon Coleman begins his book *Mind Over Body* (1989:8) by relating how a friend had suffered from a number of uncomfortable chest symptoms, including a persistent cough and breathing difficulties, over several weeks. Although these symptoms were serious and failed to respond to the drugs his family doctor prescribed the patient remained at work. Some time later he was admitted into hospital for a few days whilst tests were carried out. After returning home his condition remained the same until, several days later when, a spokesman for the hospital telephoned the man's wife to say that the test had shown that her husband had a fast-growing cancer which would result in his death within a month or two. In just a couple of days the hospital's predictions began to come true and, for the first time since the start of the illness, he could not get out of bed. In his weak state he felt that he was unable to eat properly and began to lose weight. He soon needed constant nursing and relatives came from near and far to await the end. Then a second telephone call was received from the hospital to say that a mix-up had occurred and the patient had not got an incurable cancer but an infection that could be treated with special drugs. Within 24 hours he was out of bed, walking, eating, and back at work. He still had chest symptoms, but he was no longer dying from an actual physical condition, nor was he being killed by his mind, i.e. mental events building up anxious states(9).

The values we treasure should be seen in terms of survival. Even when someone bravely gives up their own life it is usually so that others can live. The illustration in the above paragraph shows how a negative thought, bearing no verity in factual discourse, can have

death-producing consequences whilst positive thoughts can reverse the whole process, creating life-enhancing powers. Words of ancient wisdom from the Book of Proverbs (14:30) tell us that “a tranquil mind gives life to the flesh” and that fear of the Lord (3:8) “will be a healing for your flesh and a refreshment for your bones (body)”. Today’s scientific wisdom makes it clear how important healthy bone marrow is if our immune systems are to continue to produce the one billion white defender cells needed daily to keep us free from the effects of infections. Whilst this process requires no thought on our part but goes on below the level of our awareness, conscious, negative thoughts seem to have a detrimental effect not yet fully understood although medical science has been aware of the placebo effect for a long time. Some theories of psychology, such as NLP (Neuro-Linguistic Programming) optimise a patients recovery chances, for instance in the case of cancer, by a process called “visualisation” in which the patient is encouraged to make a positive visual image in which the white defender cells of their immune system keep cancer cells in check (10). Cancer cells are not foreign invaders but are in many ways just like healthy cells except that the program of their production has gone wrong. In experiments using cells in petri dishes, it has been shown that sometimes cancer cells will go back to being healthy cells. NLP encourages patients to persuade their minds to work in harmony with and for the health of their bodies, rather than against them, and in so doing to see their illness as a communication and, when responded to, the symptoms will clear up on their own. Dilt tells of a patient in her early thirties, to whom he taught this method, who had had leukaemia since childhood and had now developed cancer of the colon. The surgeon wanted to schedule her for surgery to take out a significant portion of her colon but she asked for a delay during which time she practised her newly learned technique. After only a few weeks further tests showed her cancer to be in remission. Dilt comments (1990:159-161) that “remission is a funny concept” and continues “I could say that my cold has been in remission for five years.

All the things that cause colds are still present, but my immune system is preventing them from getting out of control”(11). A future medical check-up failed to pick-up any sign that this patient had had either cancer of the colon or leukaemia (12).

Nature already provides means whereby the survival of our genes is progressed through replication and natural selection but at this level cruelty results for the individuals of a species in that their survival is so often subject to a contest between them and others. We have now reached the stage where the destruction of the planet is possible and, if our species is to survive, we need to resist the basic drives which make nature red in tooth and claw and, when yielded to by humans, advances the course of destruction by putting the world at risk from ballistic missiles, nuclear weapons and many environmentally unfriendly things. Our social environment has evolved quicker than our biology; we are still coping with a fight and flight mechanism which is redundant in many of the situations in which we find ourselves today. It is vital that we take the reins of our own survival since if we do not then nature's arrangement of gene survival for the continuance of life itself will cease along with the demise of *all* their carriers. After describing the path of self-development upon which Jung encouraged his patients toward wholeness and integration (the process of individuation), Storr (1988:192-5) quotes Jung himself:

If the unconscious can be recognized as a co-determining factor along with consciousness, and if we can live in such a way that conscious and unconscious demands are taken into account as far as possible, then the centre of gravity of the total personality shifts its position. It is then no longer in the ego, which is merely the centre of consciousness, but in the hypothetical point between the conscious and the unconscious. This new centre might be called the Self.

For Storr, reaching this point is achieving peace of mind. People come to themselves, accept themselves, and are reconciled to themselves and to adverse circumstances and events. This, he says, is almost like what used to be expressed by saying: He has made his peace with God, he has sacrificed his own will, he has submitted himself to the will of God. But this is a hard-won peace consisting of a temporary cessation of the conflict between the conscious and unconscious mind. It is our striving to bring harmony out of discord which is the spur to creativity. The artist brings about reconciliation, re-ordering and bringing into balance the tension of form and space and, writes Harrison Gough, in so doing moderates the inner tensions of the observer, giving him a sense of encounter and fulfilment (Storr, 1972:236). Again, the concept of time is mentioned (see my note 9 to Chapter One) whereby the musician seems to reconcile the difference between clock or objective time and psychological or subjective time. The first, being external, is fixed and holds one in bondage, whilst the other is more bound up with internal perceptions and fluctuations. By drawing the two together, the composer enhances one's sense of well-being. Storr quotes from Terence McLaughlin's *Music and Communication* (London: Faber & Faber, 1970, pp.104-5):

When collaboration occurs, when, for a while, the lines of conscious and unconscious thought run along the same track, we achieve the feeling of wholeness and satisfaction which is characteristic of our response to great art and other transcendent states of mind. The patterns of music, translated, analysed, shorn of detail, are able to simulate the patterns of emotions on many levels simultaneously, thus bringing various hierarchical states of consciousness and unconsciousness into harmony with one another during the existence of the music for us, whether this is a performance or purely in the memory. As this happens we experience the sense of unity which arises from the cessation of conflict between conscious and unconscious.

Much creative tension comes from dissatisfaction and frustration with things as they are. Resolution of the conflict between conscious and unconscious is momentary and may come about in many ways - music, as mentioned above being one of them, meditation being another but, perhaps the most common way is by becoming thoroughly engrossed in what takes our interest. At a neurological level we *excite* our own natural frequency or signature vibratory energy level by doing what we enjoy. Every structure, not just living beings, has its own natural vibratory frequency, e.g. a bridge has its natural vibratory frequency which, if matched by what is passing over it, will cause it to become unstable. Also, everyone will probably have heard tales about opera singers who have broken a wine glass by matching voice pitch with the glass's natural frequency. Everything - matter, liquid, air - is basically energy. All matter, both solid and liquid, is composed of molecules, which are composed of atoms, which in turn are electrons circling a nucleus, themselves made-up of protons and neutron, which again are quarks. Quarks themselves are light beams of varying lengths. What is known as the sine wave has amplitude, wavelength, and frequency, any one or two of which may change while the other(s) remains stable. The human body is composed of matter/energy molecules and the sum total of the energy we contain is our natural frequency. Music with sixty beats per minute, such as the Baroque music of Bach, Vivaldi, Coelli, and Handel, especially the slow or largo movements generally has a relaxing effect on all listeners. Once we sense our own energy level, natural frequency, we recognize it as our true state of beingness and feel a sense of completeness and peace (Baron,1990).

In his 1951/2 Charles Eliot Norton lecture, *Music and Imagination*, the composer, Aaron Copeland said:

The serious composer who thinks about his art will sooner or later have occasion to ask himself: why is it so important to my psyche that I compose music? What makes it seem so absolutely necessary, so that every daily activity, by comparison, is of lesser significance? And why is the creative impulse never satisfied; why must one always begin anew? To the first question - the need to create - the answer is always the same - self-expression; the basic need to make evident one's deepest feelings about life. But why is the job never done? Why must one always begin again? The reason for compulsion to renew creativity, it seems to me, is that each added work brings with it an element of self-discovery. I must create in order to know myself, and since self-knowledge is a never ending search, each new work is only a part-answer to the question "Who am I?" and brings with it the need to go on to other and different part-answers (Storr, 1972:223).

I believe that unease pushes us in search of harmony, our own natural frequency, of which we occasionally get a glimpse before losing our balance like a novice tight-rope walker. In creating we not only discover a Self but we actually *create* an imagined Self in that the very act of creation adds building blocks to bring about a clearer, though changing, image. In a flawed world we seek a vision of flawless reality of which our phenomenological perceptions and categories become a more accurate reflection; where language, for example, is closer to our thoughts. If there is such a thing as a "literal" God's-eye-view, what is certain is that we cannot partake of it without faith, sometimes over and above our powers of sense-perception and reason. Whether or not this leap of faith is enlightening seems paradoxical for when we have faith our perspective changes from the position where we do not have faith and are unable to benefit from any possible effects which it could have - if we do not trust, say the bus driver, then we

refuse to board the bus and, therefore, we never discover whether or not the journey could have been beneficial. It does seem that pessimism and conscious negative awareness can be detrimental to the unconscious internal systems that work for our health. A positive attitude which sees a glass as being half full seems to be more beneficial to our general health and well-being than a negative one that sees it as being half empty. Human beings have evolved, it seems to me, in such a way that a healthy mind and body are more likely when thought, our conscious reasoning, works in harness with our powerful unconscious belief system. Our emotions mediate between both reason and belief and add energizing impetus just as the spokes of a wheel relays support to its outer rim. Jung's teaching that people need something at the centre of their lives, whether they realize it or not, echoes the teaching of Jesus for less scientifically aware listeners (Matt 12:43-5 RSV):

When the unclean spirit has gone out of a man, he passes through waterless places seeking rest, but he finds none. Then he says, "I will return to my house from which I came." And when he comes he finds it empty, swept, and put in order. Then he goes and brings with him seven other spirits more evil than himself, and they enter and dwell there; and the last state of that man becomes worse than the first...

Whether Augustine was right in his assumption that man's restlessness is attributable to his search for God is something a philosopher cannot prove but it does seem that nature abhors a vacuum at the centre of our lives as much as anywhere else. If we do not choose something to live for then we are in danger of being taken over. An instance of this could be where a person does not feel valued for themselves, is unemployed with no hope of changing the situation and/or has nowhere to live. Without these positive

things at the centre of one's life it is easy to see how drugs and crime could get a hold and take over.

Like the scientist, conscious thought wishes to understand and to wrap some model or some rigor around the creative intuitions of the unconscious. However, we might here be in a similar position to when we try to measure both position and velocity of a particle in quantum physics where observation appears to collapse the wave - maybe conceptual thought, with its learned habit of categorization, acts like a straitjacket and inhibits creativity (13). Experience seems to show that, at least for many of us, creative energy must precede thought which is then able to cause it to become a material entity (refer to my discussion of "real" and "virtual" transitions in Chapter Two - *Consciousness and the Self*). Until creative energy throws something into the ring it does not even exist to be of use. Our wish to transcend self-conscious selfhood is both religious and creative; it is a desire to resolve the tension between our world of unsatisfied being with that of becoming a satisfied being at peace with oneself, not as a being apart but, as a whole part of just being.

In this chapter I have looked at the way in which our spiritual vision expands our consciousness and enables us to become centred Selves as, creatively, we resolve the conflict between our conscious and unconscious being. I have argued that by means of such a vision, we are capable of adopting those values which transcend our ego-driven desires and are justified by their support of our collective and individual survival.

Conclusion

I set out to look at the neurology which underlies the Self, including instances where some impairment is present in the brain. By drawing on my own experience as someone coping with cerebral palsy I have tried to advance my research by looking both into what is happening neurologically and also into the phenomenology of it - into what it "feels" like to have and to cope with those experiences. Fascinated by the thought that the loss of a limb seemed to leave the personality intact I wondered about the central nervous system? If the brain is damaged, does this necessarily affect the mind, diminishing the "I", or is it just that it may make communication so difficult that it only appears to do so? If the "I" of personhood is not just the sum total of our parts, what is it? What is worth living for and how can we survive change and seeming contradictions in our value systems? Although we can no longer depend upon tradition to provide us with an absolute life's goal, or destination, I have argued that to jettison some of the traditional values may be to put our very survival at risk.

My findings have led me to believe that "persons", in so far as they are seen by others, vary according to which part of the personality is seen to dominate in our relationship with another person. We will be seen by a wife or a husband in a different way than by a manager or a colleague. Our own view of ourselves, however, is imagined and this Imagined Self needs to include far more than a brain orientated central nervous system which is compared to an information-gathering computer database. As I have shown, we are much more than this. We are complex Beings whose unity of body and brain transcends our neurological hardware to make us what we are and what we are Becoming. When we look back on our lives and squirm at some of our past attitudes, this is not just because we have changed intellectually but because our "feelings" have changed also. Our capacity to choose, alongside our genetic dispositions, have made us what we are now. As living biological organisms we do not have

absolute rational control but are, to a degree that most of us are unaware of, subject to our feelings.

Bennion says (1991:74):

The intellect and the will may seek to reject what the emotions impose, but they are not likely to succeed. We do not have emotions, they have us.

For such reasons, I now realise that I may have underestimated, even post Hume, my ability to remain totally emotionally detached from the subject matter.

I have argued that the Self is an imagined construction of the brain and I have found that, not only is it formed by the intellect but by the emotions, over which we have only partial control, and which provide the stimulation our nervous system requires to function. Goleman (1996:19) diagrammatically shows that most of a sensory input, say sight or hearing, goes via the sense organ to the thalamus and then to the neocortex (the thinking brain) or visual cortex and, finally, to the amygdala; part of the input, however, bypasses the cortex and goes straight to the amygdala so that a response in an emergency can be activated without waiting for it to go through the thought processes (1). Similarly we have no conscious control over the brain's autonomic nervous system or the chemical hormones produced by the endocrine glands that control such things as heartbeat. It is not difficult to understand how the heart was and, in folk psychology, still is pictured as the seat of the emotions. The heart, of course, is the organ we all depend upon to circulate the blood, carrying oxygenated nutrients to the rest of the body. As an organ, a muscular pump about the size of a fist which beats about 100,000 times a day, it stands in relation to the cardiovascular system as the brain stands to the nervous system. We are both biologically and neurologically influenced and limited. It is fascinatingly thought provoking to read Hume discrediting cause and effect and inveighing against the unreliability of induction, there being no God to guarantee that today's natural occurrences, like the rising of the sun (Hume, 1975:26), will recur tomorrow. Nonetheless, we should remember that such radical scepticism is not the way we conduct our everyday lives. And indeed, science since Hume tells us that our biology and neurology do

anticipate such events. As Campbell (1988:92) tells us, our biological clock systems treat tomorrow's sunrise as something that can be relied upon and arrange inner timetables accordingly. Autonomic mechanisms that prepare the body for activity are set to reach the peak of their cycle in advance of waking. In the same way, we must be aware of and on our guard against the subtleties of Sartre's existentialism which again argues that, since there is no God to have a conception of human nature, there cannot be any human nature and, therefore, existence precedes essence (Sartre, 1948). Here again, science has moved on and since Sartre formulated his philosophy DNA has been discovered so that regardless of whether there is a God to influence our essence our genetic inheritance certainly does.

So, what other influences have been considered? It was asked whether damage to the brain necessarily affected the mind, diminishing the "I" or did it just create a communication problem which may cause others to suppose that it did? All damage causes "loss" and in that sense is regrettable. It is not true that the loss of a limb does not affect the personality. Of course it does in as far as our bodies are a part of what we "are". What is true is that sooner or later we come to terms with the loss, not because we are particularly brave, but because there is no choice. The personality is affected because it develops in an environment where, on account of the loss, certain everyday things are that much more difficult. For example, someone who has lost an arm has no choice but to rely more on their remaining one to provide for their needs and while they may become extremely adept it cannot be as simple managing with only one arm instead of two. I imagine that, as good as a prosthesis might be, no-one would prefer it to their natural limb. All such "losses", together with countless other struggles that everyone faces in life affects our personality, our character, and our personal identity. They go towards making us what and who we "are" and, may, affect the Selves we imagine ourselves to be although not, perhaps, in the way one might anticipate.

The problem is that whilst we come to terms with the situations that we encounter, albeit a lost limb or whatever, and try to get on with life, others looking on may seem unable to do so. The lost arm that someone has come to terms with, learning to cope adequately without it, is still visibly a lost arm to an onlooker and this not only makes the person different but limits and reduces them in the eyes of the onlooker who, unless very perceptive or having experience of someone coping with just one arm, cannot understand that as a personality this is still a whole person. It's as though fearing the unfamiliar and, sometimes, the thought that it could happen to us we build a wall of protection around ourselves and in doing so, perhaps unintentionally, we force those who are "different" to stand outside. Even those who have some handicap themselves can be just as protective when it comes to their view of others; after all, it's no easier for them to override their feelings of apprehension when facing unaccustomed situations in spite of their experience of some aspect of disability. There is something about seeing someone with a physical problem that we find hard to come to terms with and it seems to be this: our brains autonomically create our "imagined" Self and, in doing so, they make up for any deficiencies just as in vision we see things "whole" rather than interrupted by a gap where our blind spot occurs. Onlookers do not have this advantage; as far as Selves are concerned they are able only to *see* their own and to glean information about others from what those others manage to communicate. Even the actress, Zoe Wanamaker, says that when something is shown on television in which she appears, she either walks out of the room or else covers her eyes with her hand since what she sees on the screen does not match the version of her performance edited by her brain for her personal viewing (March, 1995). Projecting our own Self-image, which is something we all do, is especially difficult for someone with a neurological impairment. Getting others to see us exactly as we see ourselves is, of course, impossible for anyone but when one is noticeably different from most other people the difficulties are much greater. For one thing, body language can be very deceptive, especially when misconceptions arise because others find it difficult to decode both verbal and non-verbal communication, as when, in the former case, there is a speech impediment and, in the latter, there are irregular bodily movements or spasms. The following is a good example of this. I was in an unfamiliar

area and decided to go alone for a drink in a public house. The place was packed, a situation which only adds to my problems of making myself understood against the clamour of other people. Eventually, I managed to get a stool at the bar but then, having asked for a drink, the barmaid told me that I had had enough already. Of course, I had not had an alcoholic drink that day either there or anywhere else but I understood that my cerebral palsy had, once again, been mistaken for inebriation (I was once asked by a policeman, who spotted me unlocking my car door, whether I thought that I was in any fit condition to drive.) Normally, I would have been able to explain the situation without too much difficulty but I had had a particularly trying day and the feeling of annoyance got the better of my rational understanding of the situation which ended up in me embarrassingly confronting the manager - still, I did get my drink. One has only to look at my graduation photograph to realise how much just a little tension can be registered in the expression of someone who has cerebral palsy. After seeing the photograph a mere acquaintance at the time said that he would certainly be wary of such a character. He has since come to know me better and, I think, feels more relaxed about being in my company. For someone, like myself, although misunderstandings can be frustrating, there is often opportunity to explain one's difficulty. I am, however, mindful of the difficulties faced by people who suffer from other neurological and psychological problems where the idea of Self is either little understood or else so locked into its own world that there are added difficulties to communication. Also, hearing the theologian Professor Frances Young, speak about her grown up son Arthur, who has no language ability (1995), I recalled how insensitive and thoughtless we can all be in our "throw away" comments which, themselves, can be the cause of much suffering.

I have sometimes given a wry smile when hearing someone being described as challenged rather than "disabled", and yet I dislike the latter word even more. Maybe I do not like words that separate and pigeon-hole people as if they do not belong to the rest of society, not to mention, the human race. But when I give it due consideration, I suppose that being challenged does give some people the opportunity to respond positively and create something to stand in the place of what has been

diminished . In this way too, it can be personality-changing, character-forming, and identity-creating. It is not a situation that anyone would choose no more than we choose other knocks that we encounter in life.

Whilst acknowledging that we are influenced by our biology and neurology through DNA and the traditions which some accept as part of the collective unconscious, I am as keen as most people to challenge traditions that have had their day and can be replaced by something better. However, I see no sensible reason for the wholesale destruction of things that have been found necessary to our survival. We need to accept those things that we are given by our biologically and neurologically developed brain which, whether designed for the purpose by God or evolved over time to cope with its environment, are supremely placed for directing the creatures we "are". The "imagined" Self, along with a less than absolute vision of God, love, beauty, goodness, joy and peace are none the worse for being the self-fulfilled prophecy of a brain that actuates and confirms its vision in deeds. It is a Self, however, that is preferably manifested in individuated "wholeness" rather than a "destructive" ego. This "wholeness" is the flowing together of the known Will with the knowing Intellect into the consciousness of the "I". It is an imagined Self which, in standing up to some of the least worthy of our biological traits, becomes a centred Self contributing to a life worth living for all.

The world of science where, say, in quantum physics, particles are smashed into each other in enormous acceleration chambers, is a world of empirical observation, data collection and analysis. These are logical, high-focus operations from the results of which we could all benefit. But these are areas that are not sufficient by themselves to satisfy all the needs of human beings. There are areas of art that we will probably never understand scientifically but which make much of life worthwhile.

Philosophy is not a science but just as the science of medicine is made beneficial for people through the practice of the art of medicine so, I believe, that science in general can best be used for the benefit

of mankind through the practice of the art of a philosophy of encouragement. As in many other areas, the task of describing the world has been ceded to science by philosophy; perhaps now we can concentrate on how it might be changed. Accepting our values as earthbound, we need also to accept our responsibility for them, for on such our survival depends. We are all inescapable composers of our own world. Our nervous systems do not produce a copy of the world out there, they create an interpretation which enables us to survive and cope. When there is damage it tries to adjust and may be helped by the environment to which it belongs; an environment we help to create.

Whether God has created us or we have created God science, which is unable to penetrate beyond the Big Bang, cannot tell us. Augustine was right when he said that "our hearts are restless..." but whether God has determined us that way or whether we determined ourselves, even down to influencing our own biology, again science cannot tell us. What does seem to be apparent is that whichever it is, we function better when we go along cooperatively with our evolution as my thesis, particularly Chapter Six - Spirituality and the Creative Self, has shown. Those who are, as I have been, sceptical about the extent to which mind affects body should consider the work of the neuroscientist, Candace Pert, and her colleagues at the National Institute of Mental Health in Maryland who, in the mid-eighties identified a group of molecules called peptides which act as messengers between three distinct systems - the nervous system, the immune system, and the endocrine system - combining them into one single network. Pert sees this network as a psychosomatic network extending throughout the organism interlinking and integrating mental, emotional, and biological activities. Not only are peptides produced in the brain but, also, in the immune system and other parts of the body so that Pert asserts "I can no longer make a strong distinction between the brain and the body" and "White blood cells are bits of brain floating around the body". Our biology is linked to, and affected by, the way that we think, peptides being the biological manifestations of our emotions. The cause of "gut feelings" is accounted for by the peptide receptors that line the entire intestine (Capra, 1996:274-7). I would argue that it is far better to be wisely guided by a system that has shown itself to be beneficial, like the quantum physicist

trusting the results of his/her mathematical formulae because they give reliable predictions even though much about quantum physics is still unknown, than to either reject everything because we do not possess full understanding or to go along with those things that are destructive of both our individual and collective survival. As in quantum physics, we should see life as a seamless whole, embracing the wisdom and knowledge of both religion and science. Only as we strive to resolve the existing tensions will we address the distortions in our mirrored, imagined Selves.

The philosopher should seek the truth by examining every facet of a problem to which he can gain access. I do not accept that philosophy can do nothing but "leave the world as it is". True, we may feel a great deal of frustration at our inability to transform the world's worst situations-starvation, war, poverty, cruelty, pollution etc. but as with any huge problem the best thing to do is to break it down into manageable chunks. As far as we are concerned the first chunk to be tackled is our imagined Self. Here, if we do not like the reality we perceive then it's down to us to *change* it and this I certainly believe *is* possible. Then we can do something about the way that we interact with the world. Just because tradition has embedded something into our culture does not mean that its efficacy should not be reviewed from time to time in the light of current knowledge and the problems we face. It may be possible, for instance, for anyone who wishes to celebrate Yuletide by giving a meal to someone in need(2) - maybe, by volunteering as a helper to a charity such as Crisis - or, for anyone, who not being in need themselves, to prefer to have a donation made to a needy cause rather than to be given a personal Christmas present. Maybe this latter suggestion would give some measure of relief, not only to the poor but also, to harassed shoppers fearful that their choice might be inappropriate and end up gathering dust at the back of a draw (3). At a critical phase in the history of humanity, where our philosophy flounders and long-term survival balances on a biological knife's edge, what we need is *vision* embracing *values*, not stale argument and outmoded customs. All reality is neurologically interpreted and, in this sense, gives us a viewpoint that is unique. Generally, except for genius or extraordinary experience, our interpretations, at least within our own culture, seem to be similar

enough to allow for a wide measure of democratic agreement and, where they differ more widely, they can usually be accommodated, hopefully, by the exercise of tolerance and a willingness to broaden one's own experience.

Those of us with neurological impairments may interpret the world and the Self in slightly different ways but some could enrich the argument if they were not ignored. As every adolescent knows, the loneliest place to be is outside the group, but when the group is heading for the rocks it is the only place to stand for the philosopher with the courage to say so. There may be always an opposing philosophical argument, which is intellectually stimulating to consider, but this is a treadmill with no output. As much as we owe to and admire the analytic tradition within western philosophy, in a world which is changing so rapidly in many directions and whose values are under threat for want of both creative and constructive thinking, arguments that simply analyse and point out the inadequacies of current information can be dangerous, destabilizing and destructive of society. So too can be the actions of those who incorrectly think that they possess truth, as Socrates was keen to point out and as history since confirms, but energy needs to go into the best arguments as absolutes against which to plot the future. What is needed is not a total demolition of our values but support for the best of them which should be left untouched until something better can take their place. Such absolutes that I propose should not be carved in stone of everlasting duration but they will hold "true" so long as current knowledge does not show otherwise. Without such absolutes we can only threaten our survival and even the cleverness of persisting with action-stagnating philosophical arguments just is not worth that. Rather than continuing with argument for argument sake let action be taken on the best position so far, until genuine falsification provides the motivation to find a better way to deal with the changing current situation.

I do not make these observations from some idealistic position more commonly associated with adolescence but as someone who, from a very early age, realised that I faced some quite unique

problems. It was useless to think that I could look to my peers, or even to professionals, for solutions since my difficulties were beyond most of their experiences. My physical unsteadiness meant that if I was going to achieve the things that others do then it could only be by devising alternative ways to the same ends. In this way I have been driven to ask, not only "why" but "how" from quite an early age. Perhaps it is this experience which caused me to score highly for creativity (in the top 5% of the population) and for independence (top 6%) in psychological tests carried out when I was 49 years of age(4). The report of these tests states that I am a fairly single minded person who is in close touch with reality and suggests that, because of my imagination, my work will have a sense of perspective and flair. However, it warns that others might not be able to appreciate this flair and will tend to dismiss it as idealism or impracticality. I think that it is important for me to point out that I realise that others do not always see things the way that I do - how could they, not having had to experience and cope with a reality similar to mine. When things work out for me the way I anticipate, it is not that a miracle has happened but that a hitherto unseen reality has become apparent. To take just one very down to earth example; I realised from a very early age that one of the things that would give me greater freedom is mobility. I used to save my pocket money so that when I became old enough I could have a car but when this time came some people were incensed at the thought that I should get behind a wheel and be in charge of a motor vehicle. If they could have prevented me (5) then that would have put an end to my hopes and grounded me for life but, mercifully, I managed to buy a car and have a few lessons, after which I passed the driving test and my license became legal protection against the curtailing opinions of others. Some problems do seem to be intractable and, as a philosopher, I do not wish to be impracticable but, as someone who has needed to come up with some pragmatic answers, I must insist that there are more workable answers than most of us dream possible.

Like the psalmist (Ps.139: 14) we can stand back and admire the wonderful works of creation including the complexity of man. Whether we attribute this to God or to evolution does not alter the reality that most of us have lots of neurological potential which should be wisely understood and it is there as a

gift for us to confidently use. From my perspective, some of our greatest problems come from failing to see the illusion which is the imagined Self. Trying to pin down the Self in a literal way is a distortion of the ego which prevents us from becoming well-balanced, Centred Selves, who enjoy the wholeness of just Being.

To summarize: this thesis has been concerned with knowledge of the Self. Starting from the neurobiological foundations it looked at the philosophical and psychological views of Self which transcends this basis. It argued that our consciously imagined Self can be liberated from a dominating ego and can progress to becoming a centred Self whose values are robust enough to stand alone as adopted absolutes which are beneficial both to ourselves and the world of which we are a part. I have shown that the neurological manifestation of human nature can be modified as we create centred Selves. The fidelity of our neurological system is such that our inner subjective interpretation of the objective world cannot possibly be anything but an incomplete picture of reality as our intellect strives to present an adequate selection for our survival. However, in pushing at the borders between objective and subjective, conscious and unconscious, we help to provide for our metaphysical need for inner unity and integration. As the phenomenal brain gives us the only intellectual representation of what there is to know so it is from here that we create our world from where we communicate with those of others. In realizing that all our subjectively created worlds are neurologically determined we can adopt a less dogmatic approach as we realize, not only our own fallibility but, our own affect upon the environment of which we are a part.

Our imagined Self is not created simply by our brains but by the combining of brain and body, thought and emotion, the conscious and the unconscious, and the spectrum between science and art. Out of this we create the Selves we would be.

Notes on General Introduction

1. In *Meditation 6*, Descartes wrote:

...there is a great difference between mind and body, inasmuch as body is by nature always divisible, and the mind is entirely indivisible. For...when I consider the mind...I cannot distinguish in myself any parts, but apprehend myself to be clearly one and entire; and although the whole mind seems to be united to the whole body, yet if a foot, or an arm, or some other part, is separated from my body, I am aware that nothing has been taken away from my mind. And the faculties of willing, feeling, conceiving, etc. cannot be properly speaking said to be its parts, for it is one and the same mind which employs itself in willing and in feeling and in understanding. But it is quite otherwise with corporeal or extended objects, for there is not one of these imaginable by me which my mind cannot easily divide into parts, and which consequently I do not recognise as being divisible...(Wilson,1969: 219-20).

2. See the gospel according to Matthew chapter 16, verse 24.
3. In discussion about the Self (Aitken,1996:13) with the Benedictine brother David Steindl-Rast, the Zen master Robert Aitken made the following point:

...The popular idea is that in Buddhism there is no self. A more complete expression would be that there is no self, and the self realizes this fact. To put it another way, no-self and self are complementary. A similar point can be made about existence: people understand superficially that, according to Buddhism, nothing exists. In actuality,

nothing exists, and that is the nature of what we see. Existence and nonexistence, self and no-self - these are complementarities, like the notion of light as waves and the notion of light as particles. Both notions are correct at the same time. But if we get stuck on light as particles, then we can't see it as waves. If we get stuck on matter as eternally substantial, then we can't see it as empty. It's important that we see into the emptiness in order to fully appreciate the substance.

Notes on Chapter One

1. Edward Lorenz, the American meteorologist, gave a lecture which has since become known for the now famous Butterfly Effect theory. His paper was entitled "Does the Flap of a Butterfly's Wing in Brazil Set Off a Tornado in Texas?" Using a computer model for tracking weather, Lorenz had become tired of typing numbers with strings of decimal places behind them and thinking that it would make no difference if he rounded them up to a few decimal places, he did so. He was surprised to find that this threw the world's weather predictions completely out. A tiny change in the right place can have huge consequences and suggests that the whole of nature is a system in which the observer must be considered along with, and as a part of, the observation. To get an objective result would mean that another observer would have to monitor the first observer. This creates the same difficulty for us as when the painter cannot become part of the picture he is painting without infinite regress. (O'Connor, 1990:193). Publication in 1963 of Lorenz's model showing that minute changes in a system's initial state will lead over time to complex behaviour with large-scale consequences marked the beginning of chaos theory. The role of the conscious observer will be considered in Chapter Two - *Consciousness and the Self*.

2. Interestingly, since Einstein's famous equation $E=mc^2$ (where E stands for *energy*, mc^2 matter and the speed of light squared) we are told that all matter contains energy and that visa versa all energy can be measured in terms of weight. Thus it is possible to calculate that every second the earth is being hit by two kilograms of light. According to Einstein, energy is hidden in matter just as a miser conceals how rich he is by hiding his wealth away. (BBC *Horizon* programmes 17th and 18th March, 1996).

3. The physicist, Richard Feynman, in his *The Character of Physical Law* (p.27) writes, "I can safely say that nobody understands quantum mechanics"; also, the physicist, John Houghton, in his *New Ideas of Chaos in Physics* (p.49) writes, "Initial conditions can never be specified absolutely precisely, so that the predictability horizon represents a fundamental limit to our ability to predict" (quoted from Ward 1996, pp.33&81 respectively). The uncertainty at the micro quantum level, giving rise to *seeming* chaos, manifests itself at the macro level of classical physics as eminently predictable and determined; this allows us to postulate the view that God is active at the quantum level of reality, which remains beyond our understanding, and thus creates a world whose laws are accessible to human reason.

4. In arguing that the explanation for any observed feature of the universe resides in the fact that we are here to comment about it the "anthropic principle" prevents proper requests for more substantive explanations. Lewis (1986:132-3), whilst acknowledging that it is remarkable that the world exists given the necessity of precise values of the fundamental physical constants and boundary conditions of the cosmos, rejects the anthropic principle as not providing "an explanation because it gives no information about the causal or nomological ways of our world". Whilst advocating a theory of the "plurality of worlds" in which there are many worlds, all of which have different values of constants and boundary conditions such that one would produce the evolution of intelligent life, he does not believe that appealing to the anthropic principle would strengthen his case for modal realism.

5. Locke (1976:333) too thought that a primary rational being must have preceded the creation of conscious, thinking intelligent beings. He writes, "...it is as impossible to

conceive that ever bare incognitative matter should produce a thinking intelligent being, as that nothing should of itself produce matter”.

6. Wilkes (1993:38) writes,

“Hemispherectomies do not entail the removal of a whole half-brain. Only the half of the *cortex* is surgically eliminated. Commissurotomy does not split the brain in half. Only (part of) the *cortex* are divided. The subcortical regions are left intact and untouched in each case, and these areas are crucial to all psychological functions. Indeed, Dimond thinks that they are in a sense *more* important than is the cerebral cortex:

From this perspective (from the inside) the brain appears more like a busy map room or an operations room, where the most important actions take place right at the very centre, whereas the surround is used to display the information and to provide the back-up facilities. If we look at the brain from without, we tend to think that the cortex is the most important structure and that the rest of the brain becomes progressively less important in a gradient from there on. If, alternatively, we adopt the perspective from within, not only do we re-evaluate the centre structures at the very heart of the machine, but also the more peripheral parts take on a different perspective more like the display facilities of an operations room (Dimond [1980], p. 515).

7. Writing about ethics and value theory, Nagel (1979:137-8) says that progress in these areas “need not wait for the discovery of a general foundation (even if there is such a thing)”. His ensuing illustrations of this point give a clear indication of progress

which has been made in other areas of study even though no “theory of everything” yet exists, if it ever will:

Chemistry went through great developments during the century before its basis in atomic physics came to be understood. Mendelian genetics was developed long before any understanding of the molecular basis of heredity. At present, progress in psychology may be pursued to a great extent independently of any idea about its basis in the operation of the brain. It may be that all psychological phenomena are ultimately explainable in terms of the theory of the central nervous system, but our present understanding of that system is too meagre to permit us even to look for a way to close the gap...I myself do not believe that all value rests on a single foundation or can be combined into a unified system...Ethics is unlike physics, which represents one point of view, that which apprehends the spatiotemporal properties of the universe described in mathematical terms. Even in this case, where it is reasonable to seek a unified theory of all physical phenomena, it is also possible to understand a great deal about more particular aspects of the physical universe - gravitation, mechanics, electromagnetic fields, radiation, nuclear forces - without having such a theory.

The *incompleteness* of Newton’s Universal Law of Gravity does not make it *untrue* or invalidate it as a tool of extreme accuracy for practical purposes in everyday life. (See my Chapter Four - *Morality and the Self*).

8. The Santiago Theory was proposed by the neuroscientist, Humberto Maturana, and Francisco Varela. According to this theory the mind is not a thing but a process of cognition which *brings forth a world*. It is not that *nothing exists* but that *no things exist* independent of the process of cognition. As Capra says (1996:264) “There are no

objectively existing structures; there is no pre-given territory of which we can make a map - the map-making itself brings forth the features of the territory”.

9. An extract from a letter written by Mozart in 1789, and quoted by E. Holmes (*The Life of Mozart, including his Correspondence*, Chapman and Hall, 1878), about how he composed, reads:

All this fires my soul, and provided I am not disturbed, my subject enlarges itself, becomes methodised and defined, and the whole, though it be long, stands almost complete and finished in my mind, so that I can survey it like a fine picture or a beautiful statue at a glance. Nor do I hear in my imagination the parts successively, but I hear them as it were, all at once. What a delight this is I cannot tell! (O'Connor,1990:179).

10. Insects have been around c. 400 million years during which time moths have evolved to navigate by the moon and the stars. Because these are so far away they appear to be *fixed* in space so that they can be used as navigation beacons to fly a straight course. (It would also appear that glow-worms have evolved to use their glowing tails as decoy beacons to entice unwary moth navigators. In New Zealand, fly larvae have draped cave roofed with sticky threads that are invisible to moths but where the glowing tails of the glow-worm appear like *stars*. When the unsuspecting moth tries to use the *false* sky to navigate by, it just spirals upwards to become another meal for a waiting glow-worm). [*Alien Empires - A Journey into the World of Insects*, narrated by John Shrapnel, Channel 4, March 1996].

11. Afferent nerve fibres are those which relay sensory input to the brain, whereas, efferent nerve fibres send control signals to the muscles.

12. Here I wish to note the difference between neurology and psychology. Interestingly, Patricia Smith Churchland in her book *Neurophilosophy* (1986:pp330-333) refers to Frank Jackson's thought-experiment (1982) by which he denies the reducibility of psychology to neuroscience:

Briefly, suppose Mary is a neuroscientist who has lived her entire life in a room carefully controlled to display no colours, but only shades of white, grey, and black. Her information about the outside world comes to her via a monochrome television set. She knows everything there is to know about the brain and understands a completed neuroscience that, among other things, explains the nature of thinking, feeling, and perception, including the perception of colour. The argument is that despite knowing all there is to know about the brain and about the visual system she does not know *what it is like to see red* when say, looking at a tomato. This implies that there is something in psychology that is not captured by neurology. However, Churchland herself is not convinced by the argument that mental states, being essentially private, have an irreducibly phenomenological character.

Also, I note the warning given by Sir Peter Medawar in his *Pluto's Republic* (1982:4) about the damage that can be done when neurological disease is misdiagnosed and treated as a psychological problem. For, example, *Dystonia musculorum deformans* (DMD) is a nervous disease in children and young adults marked by involuntary muscular movements and grotesque postural fixations. If DMD is incorrectly treated or not recognized as a physical disorder of the brain it can destroy the patient's personality. Dr Irving S.

Cooper, whilst Director of the Department of Neurosurgery at the St Barnabas Hospital in New York devised a neuro-surgical treatment which depends upon the destruction of a nerve centre in the thalamus, a part of the brain that exercises an important controlling influence on the discharge of the nerve impulses that control muscular movement. Because the precise small area cannot be known with certainty beforehand the patient must remain conscious during the operation so that observation can be made of the direct improvement it brings about. (This is not as horrific as it may seem since the brain has no pain sensors). "Sufferers from DMD," says Dr Medawar, "who had the bad luck to fall into the hands of psychoanalysts are among the 'victims of psychiatry'..."

In my own case, I was among a generation of children who had to sit the 11-plus examination to decide whether or not I could go to a grammar school. Because I can only write very slowly due to poor co-ordination of my limbs as a result of cerebral palsy I was sent to an educational psychologist for assessment instead of having to write the exam under a time limit. I was found to be deficient in my ability to deal with spatial puzzles and, therefore, failed. In November 1989, at the age of 49, I took some psychological tests which showed me to be in the top few percent of population for innovation, creativity, comprehension, and vocabulary but, again, showing me to have a poor ability for solving spatial problems. It seems likely, to me, that neurological damage, in a particular area, rather than lack of psychological perception (representation), pointing to overall low ability potential, is the most likely cause.

Worse still has been some neuro-surgical operations carried out for psychiatric symptoms with horrendously damaging consequences. The first of these involving frontal lobotomies were performed in 1888 but then not repeated until the 1930's when the Portuguese neurologist, Egas Moniz, devised an operation which he called

“prefrontal leucotomy” and performed on patients suffering with such things as anxiety, depression, or chronic schizophrenia. This “psychosurgery” took off, especially in America where the neurologist Walter Freeman used an ice pick which he thrust up between the patient’s eyeball and eyelid into the frontal lobe where he “made lateral cuts by swinging the thing from side to side”. By 1949 ten thousand operations had been carried out in the United States and in 1951 Moniz received the Nobel Prize - the climax, in Macdonald Critchley’s words of, “this chronicle of shame”. What had been achieved had not been a cure but a pathetic “docile, passive” state, some patients, as Sacks (1995:59) tells us, being psychically dead, murdered, by their cure. Further operations were, mercifully, not repeated since, about this time, tranquillizers were found to be a more acceptable way to treat such problems.

13. The new psychological discipline, neuro-linguistic programming, recognises this in one of its basic teachings which says that “the *map* is not the *territory* it describes” (O’Connor, 1990:24).

14. Since writing this the Professor of Radiology, G.H. Whitehouse, at the University of Liverpool’s Magnetic Resonance Research Centre kindly arranged for a MRI brain scan to be carried out. After looking at the printouts Professor Whitehouse writes, “The only abnormality that I can detect is a moderate degree of generalised atrophy of the left cerebral hemisphere. No focal abnormality is apparent. The cerebellum and brain stem appear normal...” This was a disappointment as far as my research goes since I was hoping to be able see a connection between specific physical difficulties that I have and the parts of the brain that are malfunctioning. However, the generalised atrophy of the left cerebral hemisphere would, presumably, account for the fact that the right side of my body is affected much more than the left side by

cerebral palsy. Here the recursive loop between action and response is not being stimulated as it should be.

15. Gregory McCulloch (*The Mind and Its World*, 1995, pp.144 writing about *reflective consciousness* says:

...it is clear that ordinary skill coping...does not comprise elements all of which are accessible to explicit reflection. Normally I act and adjust myself to the things I am aware of without reflecting explicitly on this, and even if I do start to reflect...lots of my ongoing intentional movements and adjustments will not be available to me. Indeed, excessive self-consciousness can easily disrupt practical fluency.

McCulloch then goes on to quote Sartre's observation in *A Sketch for a Theory of the Emotions* (trans. P. Mairet, London: Methuen, 1971):

Now it is certain that we reflect upon our activity. But an operation *upon* the universe is generally executed without our having to leave the non-reflective plane. For example, at this moment I am writing, but I am not [reflectively] conscious of writing. Will someone say that habit has rendered me unconscious of the movements made by my hand in tracing the letters? This would be absurd. I may have the habit of writing, but not at all that of writing *such* words in *such* an order...In reality the act of writing is not at all unconscious, it is an actual structure of my consciousness. Only it is not conscious *of itself*.

16. In his criticism of religious postmodernism Carson (1996:146) accuses the theologian, John Hick, of being the current most influential religious pluralist. In order to accommodate other faiths Hick moved from a Christ-centred teaching to a

theo-centred one and then, to further accommodate those with an impersonal view of God, Hick moved to *Reality-centredness*. Hick relies on the Kantian distinction between the noumenal and the phenomenal worlds. The former exists independently of human perception or consciousness whilst the existence of the latter is dependent upon human consciousness. Both theistic and nontheistic religions, he suggests, are nothing but phenomenal responses to the noumenal Reality. The actual belief systems do not correspond directly to Reality. The New Testament's "heavenly Father" or the Qur'an's "Allah" is mythological speech about the Real. He states (Hick, 1989:248):

I define a myth as a story or statement which is not literally true but which tends to evoke an appropriate dispositional attitude to its subject matter. Thus the truth of a myth is a practical truthfulness: a true myth is one which rightly relates us to a reality about which we cannot speak in non-mythological terms.

17. In his book *The Sex Code - Morals for Moderns* (1991:125), Bennion, paraphrasing from the book *Let There Be Love* by Gunnel Enby a handicapped Swedish young woman living in an *institution* for the disabled where sex is banned, writes:

If a person's faith in their own loveliness is denied by ignoring or dismissing the sexual part of their personality, the whole process of rehabilitation is undermined.

18. I remember that when I was 12, having "failed" the 11-plus and finding it hard to settle at a Secondary Modern school, my parents, thinking they were acting in my best interests, sent me to a supposedly prestigious boarding school for cerebral palsied children at the other end of the country. Not only was I homesick but being with other cerebral palsied sufferers rather than in the ordinary rough and tumble environment that I was used to, not to mention realizing that the academic standard

was nothing like what my parents had been promised, I became very unhappy and, after three months I was removed, my parents having been medically advised that I would do better at home at the Secondary Modern school I had left.

19. Gregory McCulloch (*The Mind and Its World*, 1995, p.72) writes perceptively:

...even if I could open your head and see coloured pictures inside - surely the best possible scenario - this would not help. For my seeing your ideas would be mediated by my having my own ideas of them, and the crucial question of whether they match would be left open. Perhaps your idea is yellow but I see it as blue! As Frege says, to compare our ideas we should need to "bring [them] together in one consciousness" ["The thought: a logical enquiry", trans. A. and M. Quinton in *Philosophical Logic*, ed. P. Strawson (Oxford: Oxford University Press, 1967)], and this is impossible as Locke acknowledges [*An Essay Concerning Human Understanding*, Bk 2, Ch. 32, vs. 15].

In the above mentioned passage Locke writes:

...if...the same object should produce in several men's minds different ideas at the same time: e.g. if the idea that a violet produced in one man's mind by his eye were the same that a marigold produced in another man's, and visa versa. For, since this could never be known, because one man's mind could not pass into another man's body to perceive what appearances were produced.

20. This is also acknowledged by Locke in the above passage:

...I am nevertheless very apt to think that the sensible ideas produced by any object in different men's minds are most commonly very near and undiscernibly

alike... if it could be proved, [it] is of little use either for the improvement of our knowledge or convenience of life...

I cannot agree with Locke that perceiving things differently from someone else, even though referring to them by the same names, doesn't matter. Someone like Dr P. (mentioned earlier in this chapter) who, suffering from progressive "agnosia", patted the heads of water-hydrants and parking meters taking them to be the heads of children and amiably addressed carved knobs on the furniture, being astounded when they did not reply, had a severe *communication* problem. Similarly, I should have thought that a disagreement about a colour scheme might be the result of two people seeing two different colours and not just a difference of opinion based on equal phenomenological perceptions. Whilst Dr P's wife was understanding when he mistook her head for his hat, such behaviour, without being aware of the problem, would have been interpreted as very odd and eccentric.

21. Tests given to Stephen Wiltshire indicate both emotional and intellectual defects. At the same time he showed a prodigious visual memory but a problem with communication and social language. Chris Marris, a teacher at the special school Stephen attended was amazed at the sophistication of his drawings - their line and perspective even at the age of seven years. Marris remarks that while Stephen was one of a group of six children in his class and knew the names of the others "there was no sense of interaction or friendship between them. [Stephen] was an isolated little chap". Stephen is not distracted in his drawing tasks no matters what is going on around him. Once while visiting Dr Sacks at his home in New York Stephen drew the outside of the house from memory. As he was putting in the porch railings, Chris remarked, "I didn't see any of that detail there." Dr Sacks tells us that Stephen simply

replied, "No" but that his expression had implied, "No, you wouldn't." Sir Hugh Casson, former President of the Royal Academy of Arts said that Stephen was possibly the best child artist in Britain. During tests, carried out by Dr Sacks, Stephen displayed an ability to fit together a large jig-saw very swiftly and irrespective of whether the picture is face-up or not.

Notes on Chapter Two

1. The neurologist, Damasio(1995:29), claims that there are more than 10 billion neurons in the brain and more than 10 trillion synapses with each neuron forming around 1,000 synapses although some have as many as between 5,000 and 6,000. However, such figures are very controversial. Crick (1994:82) tells us that there are tens of billions of neurons in the human neocortex, the same as the number of stars in our Milky Way galaxy (that is, 100 billion), with between 500 and 20,000 synapses each (p.97).

2. The physicist Peat (1996:194-5) explains that:

Within quantum field theory both particles of matter, like the electron and the proton, and the quanta of energy such as a photon of light, appear as vibrations of quantum fields. But what is particularly interesting about the field is that its lowest energy state, called the ground state or vacuum state, is the state of total emptiness, the quantum void, for within this state no excitation exists. One would expect the vacuum state to be empty of all vibrations and energy. But paradoxically this absolute state of the quantum world is totally full of energy. It is packed with an infinity of energy, so that there is more energy within this tiny dot “.” of the vacuum state than in the whole observable universe. The entire visible universe, with its planets, stars, and galaxies, is no more than a tiny fluctuation upon an immense sea of nothingness, that boundless zero-point energy... Within the zero of the quantum field is the totality of creative energy in the cosmos... Many of the world's spiritual and meditative traditions share the same notion of the infinite potential of the void. It is sometimes said that the goal of meditation and of spiritual transcendence is to

reach a state of emptiness in which all thought and attachment ends. When this is achieved the seeker is open to the infinite flux of the void and the ultimate state of the no-mind.

3. John Gribbin and Michael White in their book *Einstein-A Life in Science* (1993:216-18) write:

Schrodinger was disgusted with the absurdity of quantum physics highlighted by the cat in the box experiment; so was Einstein. Niels Bohr, the pragmatist, didn't worry about the cat in the box as long as the theory could explain actual measurements on real systems. The absurdity has never been resolved, but quantum physics still works.... Many people, when they first encounter the bizarre concepts of quantum physics such as uncertainty, and the role of the observer in determining the outcome of an experiment, instinctively react with the assumption that this must all be, in some sense, an illusion. Common sense tells us that behind the quantum scenes there is surely a clockwork of Newtonian determinism, a world of certainties and objective realities which creates the appearance of uncertainty and subjectivity to our imperfect senses and inadequate measuring apparatus. But more than thirty years after the rules of quantum mechanics were first worked out, the physicist John Bell, working at CERN in Geneva, devised a test which could, in principle, distinguish the influence of the underlying clockwork at work - if it really was there. After a further two decades, in the 1980's, experimenters in Paris, headed by Alain Aspect, were able to carry out an actual experiment along the lines proposed by Bell. The experiments showed that common sense - and Einstein - was wrong. There is

no underlying clockwork, and the strangeness of the quantum world really does have to be taken at face value.

As Gribbin and White go on to say, the only alternative to quantum probabilities, superpositions of states, collapse of the wave function and action at a distance is that absolutely everything is predetermined. In such a case there would be no need for faster than light signals to tell particle A what measurement has been carried out on particle B, because the universe, including particle A, already “knows” what that measurement, and its outcome, will be. Einstein, in his speech to the German League of Human Rights in 1932, had accepted a certain restriction upon “freedom” when he quoted Schopenhauer’s words, “Man can do what he wants, but he cannot will what he wills”. Gribbin and White continue (p.225):

Einstein, like Bell, died believing that quantum theory is only a temporary expedient, and that a better description of the universe must one day be found. He may yet be proved right. But until we get that better theory, quantum mechanics remains the best description of reality that we have, and the paradoxes of cats and clocks in boxes, as well as the spooky action at a distance, are the price we have to pay for a working understanding of phenomena as diverse as lasers, nuclear power, computer chips, virtually all the modern understanding of chemistry (which depends on understanding the behaviour of electrons in the outer part of the atom) and, through biochemistry, our understanding of genetics, DNA and life itself.

4. What we momentarily desire most becomes the thing we are conscious of, just as a hungry man is conscious of little beyond his desire for food. Ornstein(1975:175) writes:

Needs, hopes, and wants are strong biasing factors in personal consciousness. When hungry, we are likely to search out food or even to create food images and smells. Since we continually "tune out" the portions of the environment which do not suit our needs, we can ignore much when in severe need. If hungry, we might not notice the river flowing by, or the people speaking to us, or our reading. At these moments, we are almost totally concerned with food and construct our world around food.

5. In *The Politics of Experience* (1967:107) R.D. Laing writes that schizophrenia used to be a new name for dementia praecox - a slow, insidious illness that was supposed to overtake young people in particular, and to be liable to go on to a terminal dementia. Perhaps we can still retain the now old name, and read into it its etymological meaning: *Schiz* - "broken"; *Phrenos* - "soul or heart":

The schizophrenic in this sense is one who is broken-hearted, and even broken hearts have been known to mend, if we have heart to let them.

6. Campbell (1996:6) tells us that in the 1960s the American neuroscientist, Paul MacLean, stated that each human brain has three separate parts, which corresponds with evolutionary stages. He called this the "triune" brain:

- I. The *reptilian* brain keeps us territorial and able to be aggressive when we need to be. It is concerned with primary survival, and does not deal with emotions or with ideas about the past and future.
 - II. The *paleomammalian* brain is linked to the primary emotions(fear, anger, love, attachment) and memory, leading to decisions such as fight, flight, bonding and mating.
 - III. The *neomammalian* brain controls sophisticated thinking and understanding - and, therefore, non-instinctive behaviour.
7. Suzuki (1957:10) says that, perhaps because of our psychological peculiarities, there are always two opposing tendencies in our human way of thinking and feeling: extrovert and introvert, outer and inner, objective and subjective, exoteric and esoteric, traditional and mystic.

Notes on Chapter Three

1. In his book, *Emotional Intelligence*, (Bloomsbury, 1996, pp. xii & 19) the psychologist, Daniel Goleman diagrammatically shows that most of a sensory input, say sight or hearing, goes via the sense organ to the thalamus and then to the neocortex (the thinking brain) or visual cortex and, finally, to the amygdala; part of the input, however, bypasses the cortex and goes straight to the amygdala so that a response in an emergency can be activated without waiting for it to go through the thought processes.

2. Indeed, Wilkes in her *Real People* (1993:83-4) reminds us that the idea of unconsciousness, which like an iceberg mainly remains below the surface, goes back more than 2,000 years. Along with references to Shakespeare (2 *Henry IV*, iv.v.92 and *The Merchant of Venice*, 1.1.1.) she quotes Heraclitus:

You will not find out the limits of the **psyche** by going, even if you travel over every way-so deep is its nature. (Diels and Kranz [1968], vol 1, fragment 45, p.161).

Wilkes also quotes Goethe (who influenced Schopenhauer) as being quite decided about the significance of the unconscious mind to creativity:

Take for instance the talented musician, composing an important score: consciousness and unconsciousness will be like warp and weft, a simile I am fond of using. Through practice, teaching, reflection, success, failure, furtherance and resistance, and again and again reflection, man's organs unconsciously and in a free activity link what he has acquired with his innate gifts, so that a unity arises which

leaves the world amazed...(Letter to W. v. Humboldt, 1832, cited by Whyte [1962],p. 129).

3. Skynner writes (1993):

If there is any quality which can sustain us in a comparable way, it is the connection with *oneself* - the ability to make and keep contact with the sense of one's inner life - to experience vividly, and enjoy the fact and feeling within being alive. This awareness of the flow of living energies animating us is always potentially available, though we lose it as a result of myriad distractions which constantly tempt us away from the essential centre of ourselves. But the more we seek it again when there is opportunity, the more readily we will find this life-enhancing resource when we need it. And as with our ability to nurture and sustain our love for others, this capacity to sense vividly the vital core of our being is more available in adversity if we have practised and developed it when there is spare time and energy to do so. More and more people nowadays have drawn on traditional Eastern methods of developing this kind of attention to one's inner-life's energies, like different forms of meditation, Yoga and Tai Chi, but many still find it through Western religious practise, like prayer and retreats. Others have come to it through the experience of stillness and quietness induced by contact with nature, poetry, or beauty of other kinds. Our most pleasurable activities follow this imperative. Any action practised with a high degree of attention is intently pleasurable and attractive precisely because it gives us a taste of our inner life, at the same time that it heightens the awareness of what we are attending to...Those who can bring this kind of attention to their work tasks are especially fortunate.

4. At a higher, quantum, level of consciousness matter is energy. Campbell (1996:9) tells us that in the late 15th century the Confucian philosopher, Wang, wrote:

The master of the body is the Mind; what the Mind develops are Thoughts; the substance of Thought is Knowledge; and those places where thoughts rest are Things.

Notes on Chapter Four

1. This is similar to the thought-experiment of Frank Jackson's (1982), quoted by Patricia Smith Churchland in her book *Neurophilosophy* (1986:pp330-333), by which he denies the reducibility of psychology to neuroscience: Briefly, suppose Mary is a neuroscientist who has lived her entire life in a room carefully controlled to display no colours, but only shades of white, grey, and black. Her information about the outside world comes to her via a monochrome television set. She knows everything there is to know about the brain and understands a completed neuroscience that, among other things, explains the nature of thinking, feeling, and perception, including the perception of colour. The argument is that despite knowing all there is to know about the brain and about the visual system she does not know *what it is like to see red* when say, looking at a tomato. This implies that there is something in psychology that is not captured by neurology. However, Churchland herself is not convinced by the argument that mental states, being essentially private, have an irreducibly phenomenological character.

2. Sutherland's speculation apart, I note that when Norman Vincent Peal was a student at Delaware's Ohio Wesleyan University one of his professors recommended that he should "seriously bring (his) mind up against one of the very greatest minds in history, the mind of St. Paul". "What you learn about the Bible will be secondary to what this study will do for you as a thinker", the professor told him. Peal comments, "That study project became one of the most determinative influences in my total learning process" (Peal, 1984:56-7).

3. The physicist, Peat(1996:113) writing about the indigenous sciences of the Native Indian American people says that all those he had spoken to always spoke “of obligations rather than rights and of the importance of their ceremonies of renewal, for, they say, nothing persists; all is flux, and unless a society is willing to renew itself through sacrifice it will pass away”.
4. Wilkes’ criticism of the Gyges ring is that it’s a “thought experiment” which could not happen in real life and therefore, in her opinion, relies on unfounded assumption.
5. In his book *War of the Worlds* (Abacus, 1995), Mark Slouka says morality matters only within the bounds of the physical world and that the dangers of *virtual reality* (cyberspace) is that we might begin to devalue *physical reality*. Slouka, a lecturer in 20th-century culture at the University of California, instances a hardworking, reassuringly stable male graduate of political science, a husband and father, who had become a member of the cyberspace community. He had created for himself an identity of the female gender in virtual reality and as such had carried-on a two year lesbian relationship with a female surfer of which his wife knew nothing. On the Net this identity, over time, took on a curious life of her own. Asked whether he could ever reveal his true physical identity, the student replied that he could not. Everyone responded to him as a female and had told him things as a female. He went on to say how interesting it was to find out what it was like to be harassed by a man (never considering that his harasser might himself be a woman pretending to be a man). What is made clear is the apparent irreversibility of the situation once multiple personalities have been created. In real life multiple personalities are a disorder primarily because social existence requires at least

the appearance of a unified personality. In virtual reality the surfer can become addicted to his/her new personalities - to come off the Net would be tantamount to killing those personas, a thought that is unthinkable, and therefore only the cost of the 'phone bill is a deterrent. A world in which we become psychologically dependent upon a machine (the computer) could be as bad as the worst scenario of George Orwell - we need the moral restraints of real life to prevent the extreme excesses of human nature when it thinks it goes undetected as would be the case if we allowed ourselves to become mere neurones in a vast brain/mind (the Net) which runs on without moral constraints.

6. Darryl Reaney in his book *Music of the Mind* (Souvenir Press Ltd, 1995:128-9) list the equivalent to the Golden Rule in other religions:

Judaism "What is hateful to you, do not to your fellow man. That is the entire law; all the rest is commentary" (*Talmud*, Shabbat, 31a).

Hinduism "This is the sum of duty; do naught unto others which would cause pain if done to you" (*Mahabharata* 5, 1517).

Buddhism "Hurt not others in ways that you yourself find hurtful" (*Udana-Varga* 5, 18).

Confucianism "Surely it is the maxim of loving kindness; do not unto others that you would not have them do unto you" (*Analects* 15, 23).

Taoism "Regard your neighbour's gain as your own gain and your neighbour's loss as your own loss" (*T'ai Shang Kan Ying P'ien*).

Islam "Not one of you is a believer until he desires for his brother that which he desires for himself" (*Sunnah*).

Reanney then quotes a poem remembered from his youth:

So many ways, so many creeds, so many paths that wind and wind when just
the art of being kind is all this old world needs.

7. Wilkes (1993:181) tells us that in an experiment conducted by Holzman, Rousey, and Snyder [1966] a number of subjects heard a tape of twenty different voices reading the same innocuous sentence. Their own voice was always the twelfth recorded, although they did not know this. Various physiological tests (such as galvanic skin response tests, electromyograms, finger plethysmograms) showed in almost all instances clear autonomic arousal reactions when they heard their own voices, but more than half failed to recognize any voice, let alone the twelfth, as their own.

8. The accused was sentenced to 21 months in jail at a subsequent hearing (*Today Newspaper*, 21st April, 1995).

9. Capra (1996, 40-2) writes:

In the new paradigm it is recognized that all scientific concepts and theories are limited and approximate...This may sound frustrating but...the fact that we *can* obtain approximate knowledge about an infinite web of interconnected patterns is a source of confidence and strength. Louis Pasteur said it beautifully: Science advances through tentative answers to a series of more and more subtle questions which reach deeper and deeper into the essence of natural phenomena.

10. There is a natural caution to any theory that proposes a scientific reason for “bad behaviour”. The notorious 1848 case of Phineas Gage, the New England railroad engineer whose own tamping iron passed through his frontal lobe causing his character to change from being one of a pleasant and responsible disposition to one lacking in finer scruples and responsibility caused a dispute between those who believed that different areas of the brain have unique functions and those who did not (Damasio, 1995:13). There are those today who remark that people are happy to accept the discoveries of science when genes are found which cause health problems but not when possible unsociable behaviour is indicated. They say that this seems unreasonable when it is known that 50% of our genes, around 30,000, are involved with the brain. If, they say, mutations affect our physical health then such mutations in brain cells will affect its behaviour function. While this seems a persuasive argument it must be remembered, as Jones (1996) points out, that such so-called abnormalities are far from being rare and may, as my text says, merely give rise to an adverse reaction to certain foods.

11. Anthony Storr (1972:193) writes:

The use of the word “intelligence” requires some comment upon the vexed question of the relation between intelligence and creativity. Frank Barron, in his book *Creative Person and Creative Process*, summarises the findings of current research by stating: “For certain intrinsically creative activities a specifiable minimum IQ is probably necessary to engage in the activity at all, but beyond that minimum, which is often surprisingly low, creativity has little correlation with scores on IQ tests.” So long as that dubious abstraction “intelligence” is defined in terms of scores on IQ tests, this lack of correlation will continue: but psychologists are increasingly coming to realise

that such a definition of intelligence is too limited. It is not possible to perform well in an intelligence test without being intelligent; but it is possible to perform badly and yet to display considerable intelligence in appraising and adapting to new real-life situations. In recent years it has been fashionable to dissociate intelligence and creativity to the point where one might suppose that the possession of a high IQ was a bar to originality.

Also, in section 34 – “The Biological Approach to Human Knowledge and Intelligence” - of *The Self and Its Brain* (1983), Karl Popper writes:

It seems likely that there are innate differences of intelligence. But it seems almost impossible that a matter so many-sided and complex as human inborn Knowledge and Intelligence (quickness to grasp, depth of understanding, creativity, clarity of exposition, etc.) can be measured by a one-dimensional function like the “Intelligence Quotient (IQ)”.... Moreover, it is quite possible that, among most normal people, inborn differences in talent are comparatively negligible; compared, that is, with the tremendous intellectual achievement of almost all children in being able, by their active efforts, to acquire a human dialect with all its intricacies at an early age.

See my chapter six - *Spirituality and the Creative Self*.

Notes on Chapter Five

1. See Wittgenstein's *The Blue and Brown Books* (*The Brown Book*, section 1, para.66-68, pp.117-122) where hardwired reading machines, such as the pianola in which hammers respond to the guiding signs in the pianola roll, are compared with the versatile and adaptable human brain.

2. The whole question of "not seeing ourselves as others see us" is grossly illustrated where someone has cerebral palsy. Another such case is that of Alan Counsell who, in his book, *So Clear in My Mind* (1982) asks throughout his autobiography (pp 18, 25, 28, 39, 53, 62) *why* other people have such difficulty understanding what he says when "its so clear in (his own) mind"? On becoming aware, as a young man wishing to appear normal on his brother's wedding photographs, of his awkward posture, he writes (p77), "I have always thought that my speech was the only outward sign of my handicap and I have not been aware of my posture defect. I feel so self-conscious as I walk about, thinking that I look handicapped". Again, when employed to help supervise in the dormitories and assist cerebral palsied youngsters, who are to be assessed for their employment potential, in their washing and dressing Counsell writes (p114), "...I am horrified when I realize that I am, for most social intents and purposes, classed in the same categories as they are. I cannot identify with them; they seem much more handicapped than I". Later, Counsell writes (pp 178-9), "...when I was filmed on video, I was shocked to see myself on the screen. I had no idea that my handicap was still so noticeable. Each movement I make betrays my state. I had thought I could almost pass as normal if I were merely walking. But now, as I look at myself, each time I move my hands I am amazed at my posture and appearance. It is absolutely no use becoming depressed about this: I am the

same now as I was before I saw myself on film and I am never going to be able to hide what I am”.

Notes on Chapter Six

1. This, following his reading of Porphyry (c.232-305AD), who taught that the soul's fulfilment is "the enjoyment of God" which was to be achieved by ascetic restraint and contemplation, the soul occupying a median position between material things and the higher realms of intelligible reality. Towards the end of his life Porphyry, who believed that God contains all things but is contained by nothing and who is reported by some Christian writers to have been a Christian in his youth but then to have apostatized, composed a lengthy and bitter attack on Christian beliefs and on the historical trustworthiness of biblical books. Chadwick (1986:22) tells us that Augustine was unaware of Porphyry's book against Christians. He goes on to point out, however, that Porphyry's works may fairly be described as offering an alternative religious philosophy, designed, whether consciously or unconsciously, to provide a rival and antidote to Christianity.

2. Augustine used *heart* to refer to those things we now think of as pertaining to the *mind*. Both terms seem to embrace what we *feel* as well as what we *think*, their inclusivity being allowed when we accept the metaphysical meaning of heart beside the physical one. While the intellect, in terms of thoughts, memories and attitudes, are now considered to have more to do with the brain, we still commonly refer to the heart when it is a matter of human feelings in terms of desires, motivations and objectives that are being questioned. Scientifically, all these things require mental events and rely upon the nervous system but equally, this system works inter-connectedly with the cardiovascular

system, whose main organ is the heart, to gives us increased heart rate etc. of which we then become consciously aware.

In a similar way, the medieval idea that characteristics are inherited through the blood is modernised by reflecting scientific thought in substituting the word "*gene*" for "*blood*".

3. Our ontological viewpoint is likely to be the "ground" against which we form our values just as the "context" of an event give it its "meaning". To illustrate, an old Chinese Taoist story tells of a farmer in a poor country village who was considered very well-to-do because he owned a horse which he used for ploughing and transportation. One day the horse ran away and all his neighbours exclaimed how terrible this was but the farmer simply said, "Maybe". A few days later the horse returned and brought two wild horses with it and the neighbours all rejoiced at the farmer's good fortune but he simply said, "Maybe". The next day the farmer's son tried to ride one of the wild horses but it threw him and he broke his leg. The neighbours all offered their sympathy for his misfortune but, again, the farmer said, "Maybe". The next week conscription officers came to the village to take young men for the army. They rejected the farmer's son because of his broken leg. When the neighbours told him how lucky he was, the farmer replied, "Maybe".

The meaning of any event depends upon the "frame" in which we perceive it. When we change the frame we change the meaning. For example, in the above illustration, having two wild horses is a *good* thing until it is seen in the context of the son's broken leg. The broken leg seems to be *bad* in the context of peaceful village life but, in the

context of conscription and war, it suddenly becomes *good*. Similarly, when we adopt a transcendental ontological viewpoint our values are likely to change.

4. Recent research using P.E.T scans of people's brains show that the same part of the cerebral cortex that is stimulated by perception is also stimulated in imagination (Robertson, 1996).

5. The prophetic Utopian vision, in which judgement is followed by deliverance of a righteous remnant who will enjoy a new life of blessing, goes back to the story of the Flood itself. Zephaniah, who lived during the second half of the seventh century B.C., prophesied that (3:9 RSV): ...at that time I [God] will change the speech of the peoples to a *pure speech*... [my italics].

The hope of some believers is that language will then give a true understanding of thought.

6. Whether or not we agree with Bertrand Russell's stand on nuclear disarmament, we cannot but admire him for his courage of his own convictions and the stand he took in pressing the discussion.

7. Humphrey (1995:13) reminds us that Carl Jung wrote: "Among my patients in the second half of life - that is to say over thirty-five - there has not been one whose problem in the last resort was not that of finding a religious outlook on life" and continues to tell us that equally, an ex-nun, Karen Armstrong, speaking for those in the

first half, said: "At adolescence, when you are so bogged down in misery about your own confusions, the idea of losing yourself in God and finding an enhanced self seems enormously attractive".

8. Robert Dilts, an author, developer and consultant in the field of Neuro-Linguistic Programming, writes (1990:16):

Beliefs are not necessarily based upon a logical framework of ideas. They are, instead, notoriously unresponsive to logic. They are not intended to coincide with reality. Since you do not really know what is real, you have to form a belief - a matter of faith...There is an old story described by Abraham Maslow that illustrates this. A psychiatrist was treating a man who believed he was a corpse. Despite all the psychiatrist's arguments, the man persisted in his belief. In a flash of inspiration, the psychiatrist asked the man, "Do corpses bleed?" the patient replied, "That's ridiculous! Of course corpses don't bleed." After first asking for permission, the psychiatrist pricked the man's finger and produced a drop of bright red blood. The patient looked at his bleeding finger with abject astonishment and exclaimed: "I'll be damned, corpses *do* bleed!".

9. We can see another example of the power of the mind over the body in Dilts' (above, p75) observation:

People who have multiple personalities often have different immune reactions in each personality. For instance, they may have an allergy in one personality and not in the other. One woman I read about even had diabetes in one personality and not in the other. One type of diabetes is related to a malfunction where the immune

system attacks the cells in your pancreas that produce insulin. By changing your identity you frequently change a whole bunch of other things (such as the immune system), all the way down.

10. Another little understood affect of *visualisation* is mentioned by the much respected psychologist, Robert E. Ornstein, who asks his readers to consider an example from the Japanese discipline of aikido(1975:169):

Ask a friend to lift you three times. Without saying anything to him, do not do anything out of the ordinary the first time. On the second, think “up.” Imagine your “energy” focused just above your head. Actively imagine it flowing upward through your head. On the third lift, think “down.” Visualize your legs as part of the earth, and imagine your “energy” as flowing downward through the soles of your feet. Do *not* tense your muscles, or make any other attempt to help or hinder the lift. Then reverse the roles. Lift your friend, but ask him to mix up the order of the three procedures (and not to inform you, of course). You will easily be able to feel the result of his “convenient visualization,” and he of yours.

11. Again, ancient wisdom tells us that ‘a cheerful heart is a good medicine, but a downcast spirit dries up the bones’ (Proverbs, 17:22,RSV).
12. There is, of course, the possibility that simply *visualising* and expecting a positive outcome lowers the level of anxiety which itself has a beneficial or placebo affect.

13. Thomas Schelling makes an interesting comment on the affect of observation when he illustrates what *might* be going on when we make choices, as for example, from a restaurant's menu:

It sometimes seems to me....that I choose dinners from menus rather like the way I used to choose movies from 'coming attractions': I mentally consume a morsel of broiled salmon, register the quality of the taste but erase the taste itself, do the same for the roast duck and let the two sensations feed into an analogue computer that signals my choice. But I can't be sure; if I watch myself and find that that is what seems to happen, it may be the result of the watching. (Elster,1986:191-2).

Notes on Concluding Chapter

1. Goleman speaks (p.61) of “emotional highjacking” to refer again to the situation where, because of a surge of catecholamines (that is, types of hormonal neurotransmitters including dopamine, epinephrine/adrenalin, and norepinephrine/noradrenalin) caused by the amygdala being stimulated prior to the neocortex, action precedes the thought process. “These neurochemicals [adrenalin and noradrenalin],” says Goleman (p.205), “mobilize the body for an emergency; the same catecholamine surge stamps memories with special strength.”
2. Those of the Christian persuasion might reflect that Jesus taught his followers that, rather than give a party for relatives, friends and rich neighbours, they should give one to which the less fortunate were invited (Luke 14:12-14).
3. Interestingly, Dr Norman Vincent Peale in his autobiography, *The Joy of Positive Living* (1984:199-201), tells that for three years they had “a lovely, sensitive, and intelligent Swiss girl named Ursula von Aesch (later Stingelin)” living with them whilst learning English and carrying out domestic tasks. As minister of New York’s Marble Collegiate Church and well-known author, he and his wife Ruth received many gifts at Christmas. These, generally, were “not expensive presents, just loving thoughts, many handmade”, for which the Peale’s were very grateful. They gave Ursula responsibility for opening these Christmas presents and making a list of what they were and who had sent them. The flood of presents overawed her and on Christmas Eve she went to a store and bought a beautiful little baby dress which she had present-wrapped in colourful paper.

With the help of a Salvation Army man she saw on leaving the store she located a poor family and gave the gift to a grateful mother who, in tears, asked why she had done it. Ursula replied, "It's a gift not only to you, but it's also a gift to a family in Manhattan with whom I live."

On Christmas morning she told the story to the appreciative Peale family saying, "This is my Christmas present to you."

4. To those who might wish to say that Dr J.M. Smith, B.A., Ph.D., A.B.Ps.S., F.B.I.M., who analysed these test results (November 1989), must have caught me on a good day I offer no countervailing argument.
5. Anyone who thinks that no one would interfere in such a restrictive way should consider the following incident which happened to me only a short while ago. I had fallen down in the street and someone kindly helped me to my feet but then, seeing me in a nearby car park getting into my car, he stood behind my vehicle to prevent me reversing out while he used his mobile 'phone to call the police. Fortunately, the two policemen were very understanding when they arrived in a panda car and quickly put the man straight, letting me drive away (probably to the man's absolute amazement!)

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